

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL ABRACZINSKAS
Director



Enter Calendar Date

Dr. Wayne Thomann
Director, Occupational and Environmental Safety Office
Duke University
5 Genome Court
Box 3914 DUHS
Durham, North Carolina 27705

SUBJECT: Air Quality Permit No. 03254T43
Facility ID: 3200144
Duke University
Durham
Durham County
Fee Class: Title V
PSD Class: Major

Dear Dr. Thomann:

In accordance with your completed Air Quality Permit Application for a renewal of your Title V permit received June 21, 2019, we are forwarding herewith Air Quality Permit No. 03254T43 to Duke University, 501 Douglas Street, Durham, North Carolina authorizing the construction and operation, of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 02Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

As the designated responsible official it is your responsibility to review, understand, and abide by all of the terms and conditions of the attached permit. It is also your responsibility to ensure that any person who operates any emission source and associated air pollution control device subject to any term or condition of the attached permit reviews, understands, and abides by the condition(s) of the attached permit that are applicable to that particular emission source.

If any parts, requirements, or limitations contained in this Air Quality Permit are unacceptable to you, you have the right to request a formal adjudicatory hearing within 30 days following receipt of this permit, identifying the specific issues to be contested. This hearing request must be in the form of a written petition, conforming to NCGS (North Carolina General Statutes) 150B-23, and filed with both the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714 and the Division of Air Quality, Permitting Section, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641. The form for requesting a formal adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Please note that this permit will be stayed in its entirety upon receipt of the request for a hearing. Unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding 30 days after issuance.



North Carolina Department of Environmental Quality | Division of Air Quality
217 West Jones Street | 1641 Mail Service Center | Raleigh, North Carolina 27699-1641
919.707.8400

You may request modification of your Air Quality Permit through informal means pursuant to NCGS 150B-22. This request must be submitted in writing to the Director and must identify the specific provisions or issues for which the modification is sought. Please note that this Air Quality Permit will become final and binding regardless of a request for informal modification unless a request for a hearing is also made under NCGS 150B-23.

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of NCGS 143-215.108A(b) and received written approval from the Director of the Division of Air Quality to commence construction. Failure to receive an Air Quality Permit or written approval prior to commencing construction is a violation of NCGS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in NCGS 143-215.114A and 143-215.114B.

Durham County has not triggered increment tracking under PSD for any pollutants, so no tracking is required.

This Air Quality Permit shall be effective from (**Permit Issuance Date**) until **Permit Expiration Date**), is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Should you have any questions concerning this matter, please contact Eric Crump at (919) 707-8470 or Eric.Crump@ncdenr.gov.

Sincerely yours,

William D. Willets, P.E., Chief, Permitting Section
Division of Air Quality, NCDEQ

Enclosure

c: Kelly Fortion, EPA Region 4 (Permit and review)
Raleigh Regional Office
Central Files
Connie Horne (Cover letter only)

ATTACHMENT to Permit No. 03254T43

Insignificant Activities per 15A NCAC 02Q .0503(8)

Emission Source ID No.	Emission Source Description
I-7538-01	*Diesel fuel-fired emergency generator (455 hp), DUMC Parking Garage #1
I-7505-01	*Diesel fuel-fired emergency generator (449 hp), Clinical Research II
I-7776-01	*Diesel fuel-fired emergency generator (465 hp), Duke Hospital LSRC II
I-7756-01	*Diesel fuel-fired emergency generator (354 hp), North Building
I-8092-01	*Diesel fuel-fired emergency generator (349 hp), Rutherford Street
I-7519-01	*Diesel fuel-fired emergency generator (349 hp), RP #3
I-7725-01	*Diesel fuel-fired emergency generator (277 hp), Public Policy Building
I-7508-01	*Diesel fuel-fired emergency generator (300 hp), Duke Hospital S. 57 Addition
I-7524-02	*Diesel fuel-fired emergency generator (269 hp), Surgical Pavilion (Vivarium)
I-7766-01	*Diesel fuel-fired emergency generator (300 hp), Teer Building
I-7577-01	*Diesel fuel-fired emergency generator (192 hp), DUMC, Environmental Safety
I-7583-01	*Diesel fuel-fired emergency generator (165 hp), Lennox Baker Hospital
I-7508-04	*Diesel fuel-fired emergency generator (156 hp), Duke Hospital S. Cobalt
I-7196-01	*Diesel fuel-fired emergency generator (135 hp), Jordan Building
I-7686-01	*Diesel fuel-fired emergency generator (86 hp), Aesthetics
I-7758-01	*Diesel fuel-fired emergency generator (68 hp), Biosciences Building
I-7552-01	*Diesel fuel-fired emergency generator (50 hp), DUMC, BMT Dialysis
I-7517-01	*Diesel fuel-fired emergency generator (64 hp), DUMC, RP-1
I-7636-01	*Natural gas-fired emergency generator (43 hp), Elder Street
I-7743-01	*Diesel fuel-fired emergency generator (40 hp), Cameron Indoor Stadium
I-7589-01	*Diesel fuel-fired emergency generator (32 hp), DUMC, CFL - Fitness
I-7740-01	*Diesel fuel-fired emergency generator (18 hp), Finch-Yeager
I-7741-01	*Diesel fuel-fired emergency generator (250 hp), Schwartz-Butters
I-7760-01	*Diesel fuel-fired emergency generator (380 hp), Fuqua School
I-8092-01	*Diesel fuel-fired emergency generator (349 hp), Roxboro Rd.
I-7708-01	*Diesel fuel-fired emergency generator (155 hp), Divinity Addition
I-7739-01	*Diesel fuel-fired emergency generator (122 hp), Rubenstein Hall
I-7245-01	*Diesel fuel-fired emergency generator (325 hp), East Dorm Equipment Building
I-7518-01	*Diesel fuel-fired emergency generator (349 hp), Nocturnal Lab
I-7198-01	*Natural gas-fired emergency generator (176 hp), Nasher Art Museum
I-Nursing	*Natural gas-fired emergency generator (80 hp), Nursing School
I-030 & I-040	Paint spray booths
I-Tanks	Fuel storage tank
I-7791-01	*Diesel fuel-fired emergency generator (413 hp), Bryan Center
I-7733-01	*Diesel fuel-fired emergency generator (130 hp), Center for Athletic Excellence. (NSPS IIII)
I-7760-02	*Diesel fuel-fired emergency generator (779 hp), Fuqua School of Business 2 (NSPS IIII)
I-7740-02	*Propane-fired emergency generator (15 hp), Free Electron Laser Lab

Emission Source ID No.	Emission Source Description
I-7557-01	*Natural gas-fired emergency generator (333 hp), Research Drive Garage
I-7224-01	Diesel fuel-fired emergency generator (325 hp), East Campus Science Building (NSPS IIII)

* The above existing institutional emergency stationary reciprocating internal combustion engine (RICE) sources located at an area source of HAPs are exempted as per 40 CFR § 63.6585(f)(3).

1. Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement or that the Permittee is exempted from demonstrating compliance with any applicable requirement.
2. When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 02D .1100 "Control of Toxic Air Pollutants" or 02Q .0711 "Emission Rates Requiring a Permit."
3. For additional information regarding the applicability of MACT or GACT see the DAQ page titled "Specific Permit Conditions Regulatory Guide." The link to this site is as follows:
<http://deq.nc.gov/about/divisions/air-quality/air-quality-permits/specific-permit-conditions-regulatory-guide>.

Summary of Changes to Permit

The following changes were made to the Duke University – Durham, Air Permit No. 03254T42:

Page No.	Section	Description of Changes
Cover and throughout	---	Updated all dates and permit revision numbers
Insignificant Activities List	Attachment	<ul style="list-style-type: none"> Updated list to current format Corrected horsepower ratings for Source ID Nos. I-7776-01, I-7552-01, I-7739-01, I-7198-01, I-7733-01, and I-7760-02 Changed location name of Source ID No. I-7739-01 to “Rubenstein Hall” Changed location name of Source ID No. I-7760-02 to “Fuqua School of Business 2”
Signature Page	---	Updated Facility Site Location
4	1	<ul style="list-style-type: none"> Changed Source ID No. for ES-7547-03, Diesel fuel-fired emergency generator (1,115 hp), Duke Hospital North No. 4 to ES-7547-04 Changed Source ID No. for ES-7547-03, Diesel fuel-fired emergency generator (2,937 hp), Duke Hospital North No. 4 to ES-7547-03A
5	1	Corrected horsepower rating for Source ID No. ES-7764-01
6	1	Corrected horsepower ratings for Source ID Nos. ES-7735-01 and ES-7559-01
8	1	Removed asterisks and footnotes for Source ID Nos. ES-7796-01, ES-7547-02B, ES-7524-02, and ES-7547-04B
9-10	2.1 A.1, 2	Added source ID numbers for generators
10	2.1 A.3	Updated to current version of stipulation for 40 CFR 63 Subpart ZZZZ
10-12	2.1 A.4	Updated to current version of stipulation for 40 CFR 60 Subpart IIII for diesel fuel-fired emergency engines
13	2.1 B.1	Added source ID numbers for boilers
13-16	2.1 B.2	Updated to current version of stipulation for 40 CFR 60 Subpart Dc for boilers firing No. 2 fuel oil
16	2.1 B.3.c	Added source ID numbers for boilers
16-17	2.1 B.5	Updated to current version of avoidance conditions for 40 CFR 63 Subpart JJJJ for area source boilers

Page No.	Section	Description of Changes
18	2.1 C.1	Added source ID number for boiler
18-21	2.1 C.2	Updated to current version of stipulation for 40 CFR 60 Subpart Dc
21	2.1 C.3.c, 4.c	Added source ID number for boiler
22	2.1 C.5	Updated to current version of avoidance conditions for 40 CFR 63 Subpart JJJJ for area source boilers
23-24	2.1 D.1, 2, 3	Added source ID numbers for boilers
24-25	2.1 E.1	Added source ID number for boiler
25-27	2.1 E.2	Updated to current version of stipulation for 40 CFR 60 Subpart Dc
27	2.1 E.3.c	Added source ID number for boiler
27-28	2.1 E.4.c	Added source ID number for boiler
28	2.1 F	Changed “Initial Reporting/Fuel Recordkeeping” in table to “Fuel Recordkeeping”
28-29	2.1 F.1, 2, 3	Added source ID numbers for boilers
29	2.1 F.4.c	Deleted initial reporting requirement already satisfied by Permittee
30	2.1 G	Changed source ID No. ES-7547-03 to ES-7547-03A in list of Diesel fuel-fired emergency generators Added source ID No. ES-7547-04 (1,115 hp, Duke Hospital North No. 4) to list of Diesel fuel-fired emergency generators Corrected horsepower ratings for Source ID Nos. ES-7764-01, ES-7735-01, and ES-7559-01
32	2.1 G	<ul style="list-style-type: none"> Added source Nos. ES-7547-02, ES-7547-04 to list of sources regulated for sulfur dioxide and visible emissions Changed source ID No. ES-7547-03 to ES-7547-03A in list of sources regulated for sulfur dioxide and visible emissions
33	2.1 G.1.a, 2.a	<ul style="list-style-type: none"> Added source Nos. ES-7547-02, ES-7547-04 to list of sources Changed No. ES-7547-03 to ES-7547-03A in list of sources
33	2.1 G.1.c, 2.c	<ul style="list-style-type: none"> Added source ID numbers for generators Added source Nos. ES-7547-02, ES-7547-04 to list of sources Changed No. ES-7547-03 to ES-7547-03A in list of sources
34	2.1 G.3.b	Added source ID numbers for generators
36	2.1 G.6	Corrected HP rating for Source ID No. ES-7559-01 in list of sources

Page No.	Section	Description of Changes
36-38	2.1 G.6	Updated to current version of stipulation for 40 CFR 60 Subpart IIII for emergency generators
38-40	2.1 G.7	Updated to current version of stipulation for 40 CFR 60 Subpart IIII for non-emergency generators
40	2.1 G.8	<ul style="list-style-type: none"> Corrected horsepower rating for Source ID No. ES-7559-01 in list of sources Updated to current version of stipulation for 40 CFR 63 Subpart ZZZZ for RICE located at an area source
41-44	2.1 G.9	Added stipulation for 40 CFR 63 Subpart ZZZZ for RICE located at an area source not subject to NSPS
47-48	2.2 B, D	Deleted stipulations related to <ul style="list-style-type: none"> Boiler ID No. ES-7754-03b/Coal Boilers Removal Project Facility-wide emission sources – MACT affected sources
47-52	2.2 C, E, F, and G	Re-lettered Sections 2.2 C, E, F, and G as Sections 2.2 B, C, D, and E
47	2.2 C	Added reference to permit application No. 3200144.05C to Footnote No. 1
48	2.2 D	Added Footnote No. 3
50	2.2 E.1.e	Noted that the Permittee submitted the required Notification of Compliance Status no later than July 19, 2014.
54-63	3	Updated General Conditions to Version 5.3 dated August 21, 2018



State of North Carolina
Department of Environmental Quality
Division of Air Quality

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.(s)	Effective Date	Expiration Date
03254T43	03254T42	XXXX*	XXXX**

Until such time as this permit expires or is modified or revoked, the below named Permittee is permitted to construct and operate the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and Title 15A North Carolina Administrative Codes (15A NCAC), Subchapters 02D and 02Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 02Q, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the permitting authority and received an Air Quality Permit, except as provided in this permit.

Permittee:

Duke University

Facility ID:

3200144

Facility Site Location:

501 Douglas Street, DFC/OHS Room 151

City, County, State, Zip:

Durham, Durham County, North Carolina 27710

Mailing Address:

5 Genome Court, Box 3914 DUHS

City, State, Zip:

Durham, North Carolina 27705

Application Number:

3200144.19A

Complete Application Date:

June 21, 2019

Primary SIC Code:

8221/8062

Division of Air Quality,

Raleigh Regional Office

Regional Office Address:

3800 Barrett Drive

Raleigh, North Carolina 27609

Permit issued this the XX day of XXXXX, XXXX

William D. Willets, P.E., Chief, Air Permitting Section

By Authority of the Environmental Management Commission

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SECTION 3: GENERAL PERMIT CONDITIONS

ATTACHMENT

List of Acronyms

SECTION 1- PERMITTED EMISSION SOURCE (S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE (S) AND APPURTENANCES

The following table contains a summary of all permitted emission sources and associated air pollution control devices and appurtenances:

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
18	ES-7754-03b NSPS Dc	Boiler #3b: One No. 2 fuel oil/natural gas-fired boiler (96.5 million Btu per hour heat input)	N/A	N/A
22, 46, 48, 49	ES-7754-04 GACT JJJJJJ	Boiler #4: One No. 2 fuel oil/Low sulfur No. 4 fuel oil/natural gas/recycled No. 2/recycled low sulfur No. 4 oil-fired boiler (69.35 million Btu per hour heat input)	N/A	N/A
22, 46, 48, 49	ES-7754-05 GACT JJJJJJ	Boiler #5: One No. 2 fuel oil/Low sulfur No. 4 fuel oil/natural gas/recycled No. 2/recycled low sulfur No. 4 oil-fired boiler (69.35 million Btu per hour heat input)	N/A	N/A
22, 46, 48, 49	ES-7754-06 NSPS Dc GACT JJJJJJ	Boiler #6: One natural gas/No. 2 fuel oil/low sulfur No. 4 fuel oil/recycled No. 2/recycled low sulfur No. 4 oil-fired boiler (99.0 million Btu per hour heat input)	N/A	N/A
22, 46, 48, 49	ES-7254-EC1 NSPS Dc	Boiler #EC1: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
28	ES-7254-EC2 NSPS Dc	Boiler #EC2: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
28	ES-7254-EC3 NSPS Dc	Boiler #EC3: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
28	ES-7254-EC4 NSPS Dc	Boiler #EC4: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
28	ES-7254-EC5 NSPS Dc	Boiler #EC5: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
28	ES-7254-EC6 NSPS Dc	Boiler #EC6: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
28	ES-7254-EC7 NSPS Dc	Boiler #EC7: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
28	ES-7254-EC8 NSPS Dc	Boiler #EC8: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
28	ES-7254-EC9 NSPS Dc	Boiler #EC9: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
28	ES-7254-EC10 NSPS Dc	Boiler #EC10: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
28	ES-7254-EC11 NSPS Dc	Boiler #EC11: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
28	ES-7254-EC12 NSPS Dc	Boiler #EC12: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
28	ES-7254-EC13 NSPS Dc	Boiler #EC13: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
23	ES-7254-EC14 NSPS Dc	Boiler #EC14: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
28	ES-7254-EC15 NSPS Dc	Boiler #EC15: One natural gas/propane-fired boiler (12.25 million Btu per hour heat input) with a low NO _x burner	N/A	N/A
44	ES-7547-06 through ES-7547-09 GACT WWWWW	Four ethylene oxide sterilizers (8 cubic feet), Duke Hospital North	CD-7547-A CD-7547-B	Two Ethylene Oxide Abator Units
44	ES-7531-01 through ES-7531-03 GACT WWWWW	Three ethylene oxide sterilizers (8 cubic feet), Duke Eye Center	CD-7531-A	One Ethylene Oxide Abator Units
30	^Y ES-7547-01, ES-7547-02 and ES-7547-04	Three Diesel fuel-fired emergency generators (1,115 hp each), Duke Hospital North Nos. 1, 2, and 4	N/A	N/A
30	^Y ES-7547-03A	One Diesel fuel-fired emergency generator (2,937 hp), Duke Hospital North No. 3	N/A	N/A

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
30	YES-7531-04	One Diesel-fired emergency generator (968 hp), Duke Eye Center	N/A	N/A
30	YES-7549-01	One Diesel fuel-fired emergency generator (645 hp), DUMC Jones Building	N/A	N/A
30	YES-7579-01 and ES-7579-02	Two Diesel fuel-fired emergency generators (1,809 hp each), DUMC Bryan Res. Building Nos. 1 and 2	N/A	N/A
30	YES-7776-02	One Diesel fuel-fired emergency generator (900 hp), Duke University LSRC I (Indoors)	N/A	N/A
30	YES-7746-01	One Diesel fuel-fired emergency generator (850 hp), Tel. Com. Building	N/A	N/A
30	YES-7765-01	One Diesel fuel-fired emergency generator (610 hp), Gross Chemistry	N/A	N/A
30	YES-7754-09	One Diesel fuel-fired emergency generator (2,168 hp), Steam Plant	N/A	N/A
30	YES-7516-01	One Diesel fuel-fired emergency generator (2,520 hp), MSRB	N/A	N/A
30	YES-7593-01	One Diesel fuel-fired emergency generator (2,068 hp), North Pavilion	N/A	N/A
30	YES-7547-05	One Diesel fuel-fired emergency generator (2,304 hp), Duke Hospital North	N/A	N/A
30	YES-7508-03	One Diesel fuel-fired emergency generator (1,109 hp), Duke Clinics West Infill	N/A	N/A
30	YES-7542-01 and ES-7542-02	Two Diesel fuel-fired emergency generators (1,586 hp each), CCIF Nos. 1 and 2)	N/A	N/A
30	YES-7540-01	One Diesel fuel-fired emergency generator (1,591 hp), GSRB I	N/A	N/A
30	YES-7526-01	One diesel-fired emergency generator (1,592 hp), GSRB II	N/A	N/A
30	YES-7582-01	One Diesel fuel-fired emergency generator (516 hp), DUMC Parking Garage #3	N/A	N/A
30	YES-7764-01	One Diesel fuel-fired emergency generator (772 hp), Primate Center	N/A	N/A
30	YES-7704-02	One Diesel fuel-fired emergency generator (764 hp), Perkins Library	N/A	N/A

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
30	YES-7777-01	One Diesel fuel-fired emergency generator (533 hp), Wilson Rec.	N/A	N/A
30	YES-7795-01	One Diesel fuel-fired emergency generator (749 hp), WEL Dorm	N/A	N/A
30	YES-7524-03	One Diesel fuel-fired emergency generator (765 hp), Surgical Pavilion	N/A	N/A
30	YES-7735-01	One Diesel fuel-fired emergency generator (1,085 hp), CIEMAS Building	N/A	N/A
30	YES-7514-01	One Diesel fuel-fired emergency generator (1,700 hp), MSRB#2	N/A	N/A
30	YES-7738-01	One Diesel fuel-fired emergency generator (2,876 hp), French Science Center	N/A	N/A
30	ES-7559-01 NSPS IIII GACT ZZZZ	One Diesel fuel-fired emergency generator (2,937 hp), Cancer Center	N/A	N/A
31	ES-7855-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired non emergency generator (4,678 bhp) located at the West Campus Chilled Water Plant No. 2	N/A	N/A
31	ES-7855-02 NSPS IIII GACT ZZZZ	Diesel fuel-fired non emergency generator (4,678 bhp) located at the West Campus Chilled Water Plant No. 2	N/A	N/A
31	ES-7855-03 NSPS IIII GACT ZZZZ	Diesel fuel-fired non emergency generator (4,678 bhp) located at the West Campus Chilled Water Plant No. 2	N/A	N/A
31	ES-7855-04 NSPS IIII GACT ZZZZ	Diesel fuel-fired non emergency generator (4,678 bhp) located at the West Campus Chilled Water Plant No. 2	N/A	N/A
30	ES-7XXA-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generators (2,995 hp) located at A/MC 1	N/A	N/A
30	ES-7XXB-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generators (2,995 hp) located at A/MC 2	N/A	N/A
30	ES-7XXC-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generators (1,600 hp) located at A/MC 3	N/A	N/A
30	ES-7XXD-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generators (1,600 hp) located at A/MC 4	N/A	N/A
30	ES-7XXE-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generators (1,600 hp) located at A/MC 5	N/A	N/A

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
30	[#] ES-7XXF-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generators (1,600 hp) located at A/MC 6	N/A	N/A
30	[#] ES-7XXG-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generators (749 hp) located at A/MC 7	N/A	N/A
30	[#] ES-7XXH-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generators (749 hp) located at A/MC 8	N/A	N/A
31	[#] ES-7XXI-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generators (749 hp) located at A/MC 9	N/A	N/A
31	[#] ES- 7XXJ-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generators (749 hp) located at A/MC 10	N/A	N/A
13	ES-7754-01b NSPS Dc	Natural gas/No. 2 fuel oil-fired boiler (96.5 million Btu/hr maximum heat input) at the West Campus Steam Plant	N/A	N/A
13	ES-7754-02b NSPS Dc	Natural gas/No. 2 fuel oil-fired boiler (96.5 million Btu/hr maximum heat input) at the West Campus Steam Plant	N/A	N/A
9	ES-7558-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generator (2,937 hp) located at the new Duke Medical Pavilion (DMP)	N/A	N/A
9	ES-7558-02 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generator (2,937 hp) located at the new Duke Medical Pavilion (DMP)	N/A	N/A
9	ES-7558-03 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generator (2,937 hp) located at the new Duke Medical Pavilion (DMP)	N/A	N/A
9	ES-7579-03 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generator (1,809 hp) located at the Bryan Research Center	N/A	N/A
31	ES-7555-01 NSPS IIII GACT ZZZZ	Diesel-fired emergency generator (1141 hp), GHRB.	N/A	N/A
31	ES-7254-16 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generator (1370 hp), East Campus Steam Plant	N/A	N/A
31	ES-7754-15 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generator (4,678 hp) West Campus Steam Plant	N/A	N/A

Page Nos.	Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
31	ES-7561-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generator (619 hp) Hudson	N/A	N/A
31	ES-7796-01 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generator (4,678 hp) West Campus Chilled Water Plant	N/A	N/A
31	ES-7547-02B NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generator (1,474 hp) Duke located at Hospital North No. 2	N/A	N/A
31	ES-7524-02 NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generator (2,206 hp) located at MSRB No. 3	N/A	N/A
31	ES-7547-04B NSPS IIII GACT ZZZZ	Diesel fuel-fired emergency generator (1,474 hp) located at Hospital North No. 4	N/A	N/A

¹ These emission sources are insignificant for Title V purposes; however, they are permitted pursuant to state-enforceable only requirements.

^u These emergency generators are considered insignificant sources, but are being permitted since they are included in the NSR avoidance condition (Section 2.1 G.)

^r Existing emergency generators at educational and medical institutions exempt from MACT ZZZZ as per 40 CFR §63.6585(f)(3).

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1- Emission Source(s) and Control Devices(s) Specific Limitations and Conditions

The emission source(s) and associated air pollution control device(s) and appurtenances listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

- A. - **Three (3) Diesel fuel-fired emergency generator (ID Nos. ES-7558-01, ES-7558-02, and ES-7558-03) located at the new Duke Medical Pavilion (DMP)**
 - **One Diesel fuel-fired emergency generator (ID No. ES-7579-03) located at the Bryan Research Center**

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0521
NMHC + NO _x , HC, NO _x , CO, PM	Meets the requirements of NSPS, Subpart IIII, 40 CFR 63.6590(c) to meet the requirements of MACT Subpart ZZZZ	15A NCAC 02D .0524 40 CFR Part 60, Subpart IIII
Hazardous air pollutants	Purchase engine certified to meet the applicable engine emission limits	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ

1. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- a. Emissions of sulfur dioxide from these emergency generators (**ID Nos. ES-7558-01, ES-7558-02, ES-7558-03 and ES-7579-03**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the firing of diesel fuel in these emergency generators (**ID Nos. ES-7558-01, ES-7558-02, ES-7558-03 and ES-7579-03**).

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from these emergency generators (**ID Nos. ES-7558-01, ES-7558-02, ES-7558-03 and ES-7579-03**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A.2.a above, the Permittee shall be deemed

in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of diesel fuel in these emergency generators (**ID Nos. ES-7558-01, ES-7558-02, ES-7558-03 and ES-7579-03**).

3. 15A NCAC 02D .1111 MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY for 40 CFR PART 63, SUBPART ZZZZ: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

Applicability [40 CFR 63.6585, 6590(a)(2)(iii)]

- a. For these sources (**ID Nos. ES-7558-01, ES-7558-02, ES-7558-03 and ES-7579-03**) the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart ZZZZ, "National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines" and Subpart A "General Provisions."

Stationary RICE subject to Regulations under 40 CFR Part 60 [15 A NCAC 02Q. 0508(f)]

- b. Pursuant to 40 CFR 63.6590(c)(1), these sources must meet the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A by meeting the requirements of 40 CFR 60 Subpart IIII. No further requirements apply for these engines under 40 CFR 63 Subpart ZZZZ and Subpart A. If these requirements are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

4. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS [40 CFR 60 Subpart IIII]

Applicability [15A NCAC 02Q .0508(f), 40 CFR 60.4200(a)(2)(i)]

- a. For these engines (**ID Nos. ES-7558-01, ES-7558-02, ES-7558-03 and ES-7579-03**), the Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines," including Subpart A "General Provisions."

General Provisions [15A NCAC 02Q .0508(f)]

- b. Pursuant to 40 CFR 60 .4218, the Permittee shall comply with the General Provisions of 40 CFR 60 Subpart A as presented in Table 8 of 40 CFR 60 Subpart IIII.

Emission Standards [15A NCAC 02Q .0508(f)]

- c. The Permittee shall comply with the emission standards in 40 CFR 60.4202 for all pollutants, for the same model year and maximum engine power for these engines. [40 CFR 60.4205(b)]

Fuel Requirements [15A NCAC 02Q .0508(f)]

- d. The Permittee shall use diesel fuel in the engines that meets the requirements of 40 CFR 80.510(b) including:
 - i. a maximum sulfur content of 15 ppm; and
 - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.[40 CFR 60.4207(b)]

Testing [15A NCAC 02Q .0508(f)]

- e. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1 A.4.c and d above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

Monitoring [15A NCAC 02Q .0508(f)]

- f. The engines have the following monitoring requirements:
 - i. The engines shall be equipped with a non-resettable hour meter prior to startup. [40 CFR 60.4209(a)]
 - ii. The engines, if equipped with a diesel particulate filter, must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. [40 CFR 60.4209(b)]

Compliance Requirements [15A NCAC 02Q .0508(b)]

- g. The Permittee shall:
 - i. operate and maintain the engines and control device according to the manufacturer's emission related-written instructions over the entire life of the engines;
 - ii. change only those emission-related settings that are permitted by the manufacturer; and
 - iii. meet the requirements of 40 CFR 89, 94 and/or 1068 as applicable. [40CFR 60.4206 and 60.4211(a)]
- h. The Permittee shall comply with the emission standards in Section 2.1 A.4.c by purchasing engines certified to the emission standards in condition c for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications. [40CFR 60.4211(c)]
- i. In order for each engine to be considered an emergency stationary ICE under this condition, any operation other than emergency operation, maintenance and testing, and operation in non- emergency situations for 50 hours per year, as described below, is prohibited.
 - (1) There is no time limit on the use of emergency stationary ICE in emergency situations.
 - (2) The Permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraph (i)(2)(i) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (i)(3) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (i)(2).
 - (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
 - (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (i)(2) of this condition. Except as provided in paragraph (i)(3)(i) of this condition, the 50 hours per calendar year for non- emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
 - (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
 - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
 - (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
 - (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific North American Electric Reliability Corporation (NERC), regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR 60.4211(f)]

- j. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the requirements in Section 2.1 A.4.f through i are not met.

Recordkeeping [15A NCAC 02Q .0508(f)]

- k. The results of inspection and maintenance made pursuant to Section 2.1 A.4.g shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on the engine;
 - iv. any variance from manufacturer's recommendations, if any, and corrections made;
 - v. the hours of operation of the engine in emergency and non-emergency service; [40 CFR 60.4214(b)]
 - vi. if a PM filter is used, records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached [40 CFR 60.4214(c)]; and
 - vii. documentation from the manufacturer that the engine is certified to meet the emission standards in Section 2.1 A.4.c.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

- l. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of noncompliance with the requirements of this permit shall be clearly identified.
- m. If the Permittee owns or operates an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates for the purposes specified in Section 2.1 A.4.i(3)(i), the Permittee shall submit an annual report according to the requirements at 40 CFR 60.4214(d). This report must be submitted to the Regional Supervisor and the EPA. [40 CFR 60.4214(d)]

B. Two natural gas/No. 2 fuel oil-fired boilers located at the West Campus Steam Plant (ID Nos. ES-7754-01b and ES-7754-02b)

The following table provides a summary of limits and standards for the emission source(s) describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	0.2 pounds per million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	<i>Firing fuel oil only:</i> No. 2 fuel oil sulfur content shall not exceed 0.5 percent by weight. <i>Firing natural gas only:</i> 2.3 pounds per million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Dc 15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0521
Hazardous air pollutants (HAPs)	<u>MACT Avoidance Condition:</u> Liquid fuel may only be used during periods of gas curtailment, gas supply emergencies, or for periodic testing not to exceed 48 hours during any calendar year.	15A NCAC 02Q .0317 (15A NCAC 02D .1111)

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- a. Emissions of particulate matter from the combustion of No. 2 fuel oil and natural gas that are discharged from these boilers (**ID Nos. ES-7754-01b and ES-7754-02b**) into the atmosphere shall not exceed 0.2 pounds per million Btu heat input.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas or No. 2 fuel oil in these boilers (**ID Nos. ES-7754-01b and ES-7754-02b**).

When firing No. 2 fuel oil:

2. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS 40 CFR PART 60 SUBPART Dc

- a. For these boilers (**ID Nos. ES-7754-01b and ES-7754-02b**), the Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart Dc, "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units," including Subpart A "General Provisions."

Emission Limitations [15A NCAC 02D .0524]

- b. The Permittee, at all times, shall not combust oil in the boilers that contains greater than 0.5 weight percent sulfur. [40 CFR 60.42c(d), (i)]
- c. On and after the date on which the initial performance test is required under Section 2.1 B.2.g, visible

emissions from the boilers when firing No. 2 fuel oil shall not be more than 20 percent opacity when averaged over a six-minute period, except for one six-minute period per hour of not more than 27 percent opacity. [40 CFR 60.43c(c)]

- d. The opacity standard in Section 2.1 B.2.c applies at all times when firing No. 2 fuel oil, except during periods of startup, shutdown, or malfunction. [40 CFR 60.43c(d)]
- e. No fuel sulfur limits or opacity limits apply under 15A NCAC 02D .0524 when firing natural gas.

Testing [15A NCAC 02Q .0508(f)]

- f. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above any limit given in Section 2.1 B.2.b and c above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.
- g. The Permittee shall conduct a performance test using Method 9 of Appendix A-4 of 40 CFR Subpart 60 and in accordance with General Condition JJ to demonstrate compliance with the opacity limit in Section 2.1 B.2.c within 45 days of switching fuel firing from natural gas to No. 2 fuel oil, or within 180 days after initial startup of the boiler when firing No. 2 fuel oil, whichever is later, and shall comply with Section 2.1 B.2.i below. [40 CFR 60.47c(a)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these testing requirements are not met.

Fuel Sulfur Monitoring [15A NCAC 02Q .0508(f)]

- h. The Permittee shall retain a copy of the fuel supplier certification for any oil fired in these boilers. The fuel supplier certification shall include the following information:
 - i. The name of the oil supplier;
 - ii. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c; and
 - iii. The sulfur content or maximum sulfur content of the oil.
- [40 CFR 60.42c(h)(1), 60.44c(h), 60.46c(e), 60.48c(f)]
 The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these monitoring requirements are not met.

Opacity Monitoring [15A NCAC 02Q .0508(f), 40 CFR 60.47c(c), 60.47c(f)(3)]

- i. After completion of the initial performance testing in Section 2.1 B.2.g, the Permittee shall comply with visible emissions monitoring in paragraphs i or ii below:
 - i. The Permittee shall conduct subsequent Method 9 performance tests using the applicable schedule in paragraphs A through D below, or within 45 days of switching fuel combustion from natural gas to No. 2 fuel oil, whichever is later, as determined by the most recent Method 9 performance test results.
 - (A) If no visible emissions are observed, a subsequent Method 9 performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;
 - (B) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;
 - (C) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or
 - (D) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.
 - (E) The observation period for Method 9 performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.
 - ii. If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 performance test, the owner or operator may, as an alternative to performing subsequent Method 9 performance tests,
- [40 CFR 60.47c(a)(1)]

elect to perform subsequent monitoring using Method 22 according to the procedures specified in paragraphs A and B below.

- (A) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires No. 2 fuel oil using Method 22 and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 performance test using the procedures in paragraph (i)(i) above within 45 calendar days.
- (B) If no visible emissions are observed for 10 operating days during which No. 2 fuel oil is fired, observations can be reduced to once every 7 operating days during which No. 2 fuel oil is fired. If any visible emissions are observed, daily observations shall be resumed.

[40 CFR 60.47c(a)(2)]

- iii. If the source is not operating on the required date for the Method 9 performance test, the performance test shall be conducted the next time the source is operated for three or more daylight hours. [40 CFR 60.8(d)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these opacity monitoring requirements are not met.

Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 60.48c(c)]

- j. The Permittee shall record and maintain records of the amounts of each fuel fired during each month. [40 CFR 60.48c(g)(2)]
- k. The Permittee shall maintain records of No. 2 fuel oil supplier certifications as shown in Section 2.1 B.2.h. [40 CFR 60.48c(e)(11), (f)(1)]
- l. The Permittee shall keep the following opacity monitoring records:
 - i. For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the following:
 - (A) Dates and time intervals of all opacity observation periods;
 - (B) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and
 - (C) Copies of all visible emission observer opacity field data sheets;
 - ii. For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the following:
 - (A) Dates and time intervals of all visible emissions observation periods;
 - (B) Name and affiliation for each visible emission observer participating in the performance test;
 - (C) Copies of all visible emission observer opacity field data sheets; and
 - (D) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.
- [40 CFR 60.48c(c)(1), (2)]
- m. The Permittee shall maintain records of any occurrence and duration of any startup, shutdown, or malfunction in the operation the boiler. [40 CFR 60.7(b)]
- n. All records required under Sections 2.1 B.2.j through m shall be maintained by the Permittee for a period of two years following the date of such record. [40 CFR 60.48c(i)]
- o. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the recordkeeping requirements in Sections 2.1 B.2.j through n are not met.

Reporting/Notifications [15A NCAC 02Q .0508(f), 40 CFR 60.48c(c), (j)]

- p. The Permittee shall submit:
- i. a semiannual summary report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of noncompliance from the requirements of this permit and excess emissions must be clearly identified. The summary report shall include the following information:
 - (A) Fuel supplier certification(s), as described in Section 2.1 B.2.h.
 - (B) A certified statement signed by the owner or operator that the records of fuel supplier certification(s) submitted represents all of the No. 2 fuel oil fired during the semiannual period;
 - (C) Records from any subsequent performance tests performed as shown in Section 2.1 B.2.i.
 - ii. The Permittee shall submit a notification of the actual date of initial startup of the boiler to the Regional Supervisor, DAQ, postmarked within 15 days after such date. [40 CFR 60.7, 60.48c(a)]
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these reporting requirements are not met.

When firing natural gas:

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- a. Emissions of sulfur dioxide from these boilers (**ID Nos. ES-7754-01b and ES-7754-02b**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of natural gas in these boilers (**ID Nos. ES-7754-01b and ES-7754-02b**).

4. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from these boilers (**ID Nos. ES-7754-01b and ES-7754-02b**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B.4.a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas or No. 2 fuel oil in these boilers (**ID Nos. ES-7754-01b and ES-7754-02b**).

5. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for

15A NCAC 02D .1111, 40 CFR Part 63, Subpart JJJJJJ, "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers at Area Sources"

- a. In order to avoid the applicability of 40 CFR 63 Subpart JJJJJJ, "Industrial, Commercial, and Institutional

Boilers Area Sources,” the Permittee shall operate the emission sources (**ID Nos. ES-7754-01b and ES-7754-02b**) as follows:

- i. Gaseous-fuels are not combined with any solid fuels.
- ii. Liquid fuels are burned only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel.
- iii. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [40 CFR 63.11195(e), 63.11237]

Definitions and Nomenclature

- b. For the purposes of this permit condition, the definitions and nomenclature contained in 40 CFR 63.11237 shall apply.

Recordkeeping [15A NCAC 02Q 0508(f)]

- c. The Permittee shall maintain, and make available upon request, the following records:
 - i. types of fuels combusted during periods of gas curtailment, gas supply interruption, and startups;
 - ii. date and duration of periods of gas curtailment, gas supply interruption and startups; and
 - ii. date and duration of periods of testing with liquid fuel.
- d. If the Permittee:
 - i. fails to keep the records in Section 2.1 A.5.c above;
 - ii. combusts any solid fuels;
 - ii. burns liquid fuels outside the periods indicated in Section 2.1 A.5.a.ii above or
 - iv. tests the source burning liquid fuel for longer than 48 hours during any calendar year;the Permittee shall be deemed in non-compliance with 15A NCAC 02D .1111.

Reporting [15A NCAC 02Q 0508(f)]

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 A.5.c above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

C. Boiler No. 3b: One natural gas/No. 2 fuel oil -fired boiler (ID No. ES-7754-03b)

The following table provides a summary of limits and standards for the emission source(s) describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	0.206 pounds per million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	<i>Firing fuel oil only:</i> No. 2 fuel oil sulfur content shall not exceed 0.5 percent by weight. <i>Firing natural gas only:</i> 2.3 pounds per million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Dc 15A NCAC 02D .0516
Visible emissions	<i>Firing fuel oil only:</i> 20 percent opacity <i>Firing natural gas only:</i> 20 percent opacity	15A NCAC 02D .0524 40 CFR Part 60, Subpart Dc 15A NCAC 02D .0521
Hazardous air pollutants (HAPs)	<u>MACT Avoidance Condition:</u> Liquid fuel may only be used during periods of gas curtailment, gas supply emergencies, or for periodic testing not to exceed 48 hours during any calendar year	15A NCAC 02Q .0317 (15A NCAC 02D .1111)

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- a. Emissions from the combustion of No. 2 fuel oil and natural gas that are discharged from this boiler (**ID No. ES-7754-03b**) into the atmosphere shall not exceed 0.206 pounds per million Btu heat input.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 C.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas or No. 2 fuel oil in this boiler (**ID No. ES-7754-03b**).

When firing No. 2 fuel oil:

**2. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS
40 CFR PART 60 SUBPART Dc**

- a. For this boiler (**ID No ES-7754-03b**), the Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524, “New Source Performance Standards (NSPS)” as promulgated in 40 CFR 60 Subpart Dc, “Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units,” including Subpart A, “General Provisions”.

Emission Limitations [15A NCAC 02Q .0508(f)]

- b. The Permittee, at all times, shall not combust oil in the boiler that contains greater than 0.5 weight percent sulfur. [40 CFR 60.42c(d), (i)]
- c. On and after the date on which the initial performance test is required under Section 2.1 C.2.g, visible

emissions from the boiler when firing No. 2 fuel oil shall not be more than 20 percent opacity when averaged over a six-minute period, except for one six-minute period per hour of not more than 27 percent opacity. [40 CFR 60.43c(c)]

- d. The opacity standard in Section 2.1 C.2.c applies at all times when firing No. 2 fuel oil, except during periods of startup, shutdown, or malfunction. [40 CFR 60.43c(d)]
- e. No fuel sulfur limits or opacity limits apply under 15A NCAC 02D .0524 when firing natural gas.

Testing [15A NCAC 02Q .0508(f)]

- f. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above any limit given in Section 2.1 C.2.b and c above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.
- g. The Permittee shall conduct a performance test using Method 9 of Appendix A-4 of 40 CFR Subpart 60 and in accordance with General Condition JJ to demonstrate compliance with the opacity limit in Section 2.1 C.2.c within 45 days of switching fuel firing from natural gas to No. 2 fuel oil, or within 180 days after initial startup of the boiler when firing No. 2 fuel oil, whichever is later, and shall comply with Section 2.1 C.2.i below. [40 CFR 60.47c(a)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these testing requirements are not met.

Fuel Sulfur Monitoring [15A NCAC 02Q .0508(f)]

- h. The Permittee shall retain a copy of the fuel supplier certification for any oil fired in this boiler. The fuel supplier certification shall include the following information:
 - i. The name of the oil supplier;
 - ii. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c; and
 - iii. The sulfur content or maximum sulfur content of the oil.
 [40 CFR 60.42c(h)(1), 60.44c(h), 60.46c(e), 60.48c(f)]
 The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these monitoring requirements are not met.

Opacity Monitoring [15A NCAC 02Q .0508(f), 40 CFR 60.47c(c), 60.47c(f)(3)]

- i. After completion of the initial performance testing in Section 2.1 C.2.g, the Permittee shall comply with visible emissions monitoring in paragraphs i or ii below:
 - i. The Permittee shall conduct subsequent Method 9 performance tests using the applicable schedule in paragraphs A through D below, or within 45 days of switching fuel combustion from natural gas to No. 2 fuel oil, whichever is later, as determined by the most recent Method 9 performance test results.
 - (A) If no visible emissions are observed, a subsequent Method 9 performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;
 - (B) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;
 - (C) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or
 - (D) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.
 - (E) The observation period for Method 9 performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.
 [40 CFR 60.47c(a)(1)]
 - ii. If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 performance test, the owner or operator may, as an alternative to performing subsequent Method 9 performance tests,

elect to perform subsequent monitoring using Method 22 according to the procedures specified in paragraphs A and B below.

- (A) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires No. 2 fuel oil using Method 22 and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 performance test using the procedures in paragraph (i)(i) above within 45 calendar days.
- (B) If no visible emissions are observed for 10 operating days during which No. 2 fuel oil is fired, observations can be reduced to once every 7 operating days during which No. 2 fuel oil is fired. If any visible emissions are observed, daily observations shall be resumed.

[40 CFR 60.47c(a)(2)]

- iii. If the source is not operating on the required date for the Method 9 performance test, the performance test shall be conducted the next time the source is operated for three or more daylight hours. [40 CFR 60.8(d)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these opacity monitoring requirements are not met.

Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 60.48c(c)]

- j. The Permittee shall record and maintain records of the amounts of each fuel fired during each month. [40 CFR 60.48c(g)(2)]
- k. The Permittee shall maintain records of No. 2 fuel oil supplier certifications as shown in Section 2.1 C.2.h. [40 CFR 60.48c(e)(11), (f)(1)]
- l. The Permittee shall keep the following opacity monitoring records:
 - i. For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the following:
 - (A) Dates and time intervals of all opacity observation periods;
 - (B) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and
 - (C) Copies of all visible emission observer opacity field data sheets;
 - ii. For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the following:
 - (A) Dates and time intervals of all visible emissions observation periods;
 - (B) Name and affiliation for each visible emission observer participating in the performance test;
 - (C) Copies of all visible emission observer opacity field data sheets; and
 - (D) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.
- [40 CFR 60.48c(c)(1), (2)]
- m. The Permittee shall maintain records of any occurrence and duration of any startup, shutdown, or malfunction in the operation the boiler. [40 CFR 60.7(b)]
- n. All records required under Sections 2.1 C.2.j through m shall be maintained by the Permittee for a period of two years following the date of such record. [40 CFR 60.48c(i)]
- o. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the recordkeeping requirements in Sections 2.1 C.2.j through n are not met.

Reporting/Notifications [15A NCAC 02Q .0508(f), 40 CFR 60.48c(c), (j)]

- p. The Permittee shall submit:
 - i. a semiannual summary report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of noncompliance from the requirements of this permit and excess emissions must be clearly identified. The summary report shall include the following information:
 - (A) Fuel supplier certification(s), as described in Section 2.1 C.2.h.
 - (B) A certified statement signed by the owner or operator that the records of fuel supplier certification(s) submitted represents all of the No. 2 fuel oil fired during the semiannual period;
 - (C) Records from any subsequent performance tests performed as shown in Section 2.1 C.2.i.
 - ii. The Permittee shall submit a notification of the actual date of initial startup of the boiler to the Regional Supervisor, DAQ, postmarked within 15 days after such date. [40 CFR 60.7, 60.48c(a)]
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these reporting requirements are not met.

When firing natural gas:

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- a. Emissions of sulfur dioxide from this boiler (**ID Nos. ES-7754-03b**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ found in Section 3. If the results of this test are above the limit given in Section 2.1 C.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of natural gas in this boiler (**ID Nos. ES-7754-03b**).

When firing natural gas:

4. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

- a. When firing natural gas, visible emissions from this boiler (**ID Nos. ES-7754-03b**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C.4. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas in this boiler (**ID Nos. ES-7754-03b**).

**5. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for
15A NCAC 02D .1111 - MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**

- a. In order to avoid the applicability of 40 CFR 63 Subpart JJJJJ, “Industrial, Commercial, and Institutional Boilers Area Sources,” the Permittee shall operate the emission source (**ID No. ES-7754-03b**) as follows:
 - i. Gaseous-fuels are not combined with any solid fuels.
 - ii. Liquid fuels are burned only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel.
 - iii. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [40 CFR 63.11195(e), 63.11237]

Definitions and Nomenclature

- b. For the purposes of this permit condition, the definitions and nomenclature contained in 40 CFR 63.11237 shall apply.

Recordkeeping [15A NCAC 02Q 0508(f)]

- c. The Permittee shall maintain, and make available upon request, the following records:
 - i. types of fuels combusted during periods of gas curtailment, gas supply interruption, and startups;
 - ii. date and duration of periods of gas curtailment, gas supply interruption and startups; and
 - ii. date and duration of periods of testing with liquid fuel.
- d. If the Permittee:
 - i. fails to keep the records in Section 2.1 C.5.c above;
 - ii. combusts any solid fuels;
 - ii. burns liquid fuels outside the periods indicated in Section 2.1 C.5.a.ii above or
 - iv. tests the source burning liquid fuel for longer than 48 hours during any calendar year;
 the Permittee shall be deemed in non-compliance with 15A NCAC 02D .1111.

Reporting [15A NCAC 02Q 0508(f)]

- e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities given in Section 2.1 C.5.c above postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

D. Boilers Nos. 4 and 5: Two natural gas/No. 2/Low sulfur No. 4/ recycled No. 2/recycled low sulfur No. 4 fuel oil -fired boilers (ID Nos. ES-7754-04 and ES-7754-05)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	0.234 pounds per million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0521

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter Sulfur dioxide	PSD Avoidance Condition <i>Multiple Sources: Boiler Nos. 4, 5, and 6 (ID No. ES-7754-04 through ES7754-06):</i> See Section 2.2 F No. 4 fuel oil annual usage shall not exceed 8,400,000 gallons in the three boilers No. 4 fuel oil sulfur content shall not exceed 0.5 percent by weight.	15A NCAC 02Q .0317 (15A NCAC 02D .0530)
Toxic air pollutants (TAPs)	State-enforceable only Toxics Avoidance Requirements – All recycled fuel oil received and fired shall meet the required specifications. <i>See Section 2.2 A.</i>	15A NCAC 02Q .0317 (15A NCAC 02D .1100)
HAPs	<i>See Section 2.2 G.</i>	15A NCAC 02D .1111 MACT Subpart JJJJJ

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- a. Emissions of particulate matter from the combustion of No. 2/4 fuel oil, recycled No. 2 fuel oil, and natural gas that are discharged from these boilers (**ID Nos. ES-7754-04 and ES-7754-05**) into the atmosphere shall not exceed 0.234 pounds per million Btu heat input.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 D.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of No. 2/4 fuel oil, recycled No. 2/4 fuel oil, and/or natural gas in these boilers (**ID Nos. ES-7754-04 and ES-7754-05**).

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- a. Emissions of sulfur dioxide from these boilers (**ID Nos. ES-7754-04 and ES-7754-05**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping is required for sulfur dioxide emissions from firing No. 2/4 fuel oil, recycled No. 2/4 fuel oil, and/or natural gas for these boilers (**ID No. ES-7754-04 and ES-7754-05**).

3. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from these boilers (**ID No. ES-7754-04 and ES-7754-05**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of No. 2/4 fuel oil, recycled No. 2/4 fuel oil, and/or natural gas in these boilers (**ID No. ES-7754-04 and ES-7754-05**).

E. Boiler No. 6: One natural gas/No. 2/Low sulfur No. 4/recycled No. 2/recycled low sulfur No. 4 fuel oil -fired boiler (ID No. ES-7754-06)

The following table provides a summary of limits and standards for the emission source(s) describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	0.214 pounds per million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	<u>Firing fuel oil only:</u> No. 2 and/or No. 4 fuel oil sulfur content shall not exceed 0.5 percent by weight. <u>Firing natural gas only:</u> 2.3 pounds per million Btu heat input	15A NCAC 02D .0524 40 CFR Part 60, Subpart Dc 15A NCAC 02D .0516
Visible emissions	<u>Firing fuel oil only:</u> 20 percent opacity <u>Firing natural gas only:</u> 20 percent opacity	15A NCAC 02D .0524 40 CFR Part 60, Subpart Dc 15A NCAC 02D .0521
Particulate matter Sulfur dioxide	PSD Avoidance Condition <u>Multiple Sources: Boiler Nos. 4, 5, and 6 (ID No. ES-7754-04 through ES-7754-06): See Section 2.2 F</u> No. 4 fuel oil annual usage shall not exceed 8,400,000 gallons in the three boilers No. 4 fuel oil sulfur content shall not exceed 0.5 percent by weight.	15A NCAC 02Q .0317 (15A NCAC 02D .0530)
Toxic air pollutants (TAPs)	State-enforceable only Toxics Avoidance Requirements – All recycled fuel oil received and fired shall meet the required specifications. <i>See Section 2.2 A.</i>	15A NCAC 02Q .0317 (15A NCAC 02D .1100)
HAPs	<i>See Section 2.2 G.</i>	15A NCAC 02D .1111 <i>MACT Subpart JJJJJ</i>

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- a. Emissions from the combustion of No. 2/4 fuel oil and natural gas that are discharged from this boiler (**ID No. ES-7754-06**) into the atmosphere shall not exceed 0.214 pounds per million Btu heat input.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.1.a above, the Permittee shall be deemed

in noncompliance with 15A NCAC 02D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas or No. 2/4 fuel oil in this boiler (**ID No. ES-7754-06**).

When firing No. 2/4 fuel oil:

2. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS

40 CFR PART 60 SUBPART Dc

- a. For this boiler (**ID No. ES-7754-06**), the Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524, "New Source Performance Standards (NSPS)" as promulgated in 40 CFR 60 Subpart Dc, "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units," including Subpart A, "General Provisions".

Emission Limitations [15A NCAC 02Q .0508(f)]

- b. The Permittee, at all times, shall not combust oil in the boiler that contains greater than 0.5 weight percent sulfur. [40 CFR 60.42c(d), (i)]
- c. On and after the date on which the initial performance test is required under Section 2.1 E.2.g, visible emissions from the boiler when firing No. 2 fuel oil shall not be more than 20 percent opacity when averaged over a six-minute period, except for one six-minute period per hour of not more than 27 percent opacity. [40 CFR 60.43c(c)]
- d. The opacity standard in Section 2.1 E.2.c applies at all times when firing No. 2 fuel oil, except during periods of startup, shutdown, or malfunction. [40 CFR 60.43c(d)]
- e. No fuel sulfur limits or opacity limits apply under 15A NCAC 02D .0524 when firing natural gas.

Testing [15A NCAC 02Q .0508(f)]

- f. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above any limit given in Section 2.1 E.2.b and c above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.
- g. The Permittee shall conduct a performance test using Method 9 of Appendix A-4 of 40 CFR Subpart 60 and in accordance with General Condition JJ to demonstrate compliance with the opacity limit in Section 2.1 E.2.c within 45 days of switching fuel firing from natural gas to No. 2 fuel oil, or within 180 days after initial startup of the boiler when firing No. 2 fuel oil, whichever is later, and shall comply with Section 2.1 E.2.i below. [40 CFR 60.47c(a)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these testing requirements are not met.

Fuel Sulfur Monitoring [15A NCAC 02Q .0508(f)]

- h. The Permittee shall retain a copy of the fuel supplier certification for any oil fired in this boiler. The fuel supplier certification shall include the following information:
 - i. The name of the oil supplier;
 - ii. A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c; and
 - iii. The sulfur content or maximum sulfur content of the oil.
- [40 CFR 60.42c(h)(1), 60.44c(h), 60.46c(e), 60.48c(f)]
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these monitoring requirements are not met.

Opacity Monitoring [15A NCAC 02Q .0508(f), 40 CFR 60.47c(c), 60.47c(f)(3)]

- i. After completion of the initial performance testing in Section 2.1 E.2.g, the Permittee shall comply with visible emissions monitoring in paragraphs i or ii below:
 - i. The Permittee shall conduct subsequent Method 9 performance tests using the applicable schedule in

paragraphs A through D below, or within 45 days of switching fuel combustion from natural gas to No. 2 fuel oil, whichever is later, as determined by the most recent Method 9 performance test results.

- (A) If no visible emissions are observed, a subsequent Method 9 performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted;
- (B) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted;
- (C) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted; or
- (D) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.
- (E) The observation period for Method 9 performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

[40 CFR 60.47c(a)(1)]

- ii. If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 performance test, the owner or operator may, as an alternative to performing subsequent Method 9 performance tests, elect to perform subsequent monitoring using Method 22 according to the procedures specified in paragraphs A and B below.
 - (A) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires No. 2 fuel oil using Method 22 and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (i.e., 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (i.e., 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (i.e., 90 seconds) or conduct a new Method 9 performance test using the procedures in paragraph (i)(i) above within 45 calendar days.
 - (B) If no visible emissions are observed for 10 operating days during which No. 2 fuel oil is fired, observations can be reduced to once every 7 operating days during which No. 2 fuel oil is fired. If any visible emissions are observed, daily observations shall be resumed.

[40 CFR 60.47c(a)(2)]

- iii. If the source is not operating on the required date for the Method 9 performance test, the performance test shall be conducted the next time the source is operated for three or more daylight hours. [40 CFR 60.8(d)]

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these opacity monitoring requirements are not met.

Recordkeeping [15A NCAC 02Q .0508(f), 40 CFR 60.48c(c)]

- j. The Permittee shall record and maintain records of the amounts of each fuel fired during each month. [40 CFR 60.48c(g)(2)]
- k. The Permittee shall maintain records of No. 2 fuel oil supplier certifications as shown in Section 2.1 E.2.h. [40 CFR 60.48c(e)(11), (f)(1)]
- l. The Permittee shall keep the following opacity monitoring records:
 - i. For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the following:
 - (A) Dates and time intervals of all opacity observation periods;
 - (B) Name, affiliation, and copy of current visible emission reading certification for each visible

- emission observer participating in the performance test; and
 - (C) Copies of all visible emission observer opacity field data sheets;
- ii. For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the following:
 - (A) Dates and time intervals of all visible emissions observation periods;
 - (B) Name and affiliation for each visible emission observer participating in the performance test;
 - (C) Copies of all visible emission observer opacity field data sheets; and
 - (D) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.
- [40 CFR 60.48c(c)(1), (2)]
- m. The Permittee shall maintain records of any occurrence and duration of any startup, shutdown, or malfunction in the operation the boiler. [40 CFR 60.7(b)]
- n. All records required under Sections 2.1 E.2.j through m shall be maintained by the Permittee for a period of two years following the date of such record. [40 CFR 60.48c(i)]
- o. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the recordkeeping requirements in Sections 2.1 E.2.j through n are not met.

Reporting/Notifications [15A NCAC 02Q .0508(f), 40 CFR 60.48c(c), (j)]

- p. The Permittee shall submit:
 - i. a semiannual summary report postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of noncompliance from the requirements of this permit and excess emissions must be clearly identified. The summary report shall include the following information:
 - (A) Fuel supplier certification(s), as described in Section 2.1 E.2.h.
 - (B) A certified statement signed by the owner or operator that the records of fuel supplier certification(s) submitted represents all of the No. 2 fuel oil fired during the semiannual period;
 - (C) Records from any subsequent performance tests performed as shown in Section 2.1 E.2.i.
 - ii. The Permittee shall submit a notification of the actual date of initial startup of the boiler to the Regional Supervisor, DAQ, postmarked within 15 days after such date. [40 CFR 60.7, 60.48c(a)]
- The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these reporting requirements are not met.

When firing natural gas:

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- a. Emissions of sulfur dioxide from this boiler (**ID Nos. ES-7754-06**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

- c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of natural gas in this boiler (**ID Nos. ES-7754-06**).

When firing natural gas:

4. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

- a. When firing natural gas, visible emissions from this boiler (**ID Nos. ES-7754-06**) shall not be more than

20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 E.4.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas in this boiler (**ID Nos. ES-7754-06**).

F. Boilers Nos. EC1 to EC15: Fifteen natural gas and propane-fired boilers (ID Nos. ES-7254-EC1 to ES-7254-EC15)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter	0.198 pounds per million Btu heat input	15A NCAC 02D .0503
Sulfur dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible emissions	20 percent opacity	15A NCAC 02D .0521
N/A	Fuel Recordkeeping	15A NCAC 02D .0524

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

- a. Emissions from the combustion of natural gas and/or propane that are discharged from these boilers (**ID Nos. ES-7254-EC1 to ES-7254-EC15**) into the atmosphere shall not exceed 0.198 pounds per million Btu heat input.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for particulate emissions from the firing of natural gas in these boilers (**ID Nos. ES-7254-EC1 to ES-7254-EC15**).

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- a. Emissions of sulfur dioxide from these boilers (**ID Nos. ES-7254-EC1 to ES-7254-EC15**) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from firing natural gas for these boilers (**ID Nos. ES-7254-EC1 to ES-7254-EC15**).

3. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from these boilers (**ID Nos. ES-7254-EC1 to ES-7254-EC15**) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 F.3.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of natural gas and/or propane in these boilers (**ID Nos. ES-7254-EC1 to ES-7254-EC15**).

4. 15A NCAC 02D .0524: NSPS 40 CFR PART 60 SUBPART Dc

- a. The Permittee shall comply with all applicable provisions, including the notification, testing, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS) as promulgated in 40 CFR Part 60 Subpart Dc, "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units,"including Subpart A "General Provisions."

Recordkeeping [15A NCAC 02Q .0508(f)]

- b. The Permittee shall record and maintain records of the amounts of each fuel fired during each month. [40 CFR 60.48c(g)(2)] These records shall be maintained by the Permittee for a period of two years following the date of such record. [40 CFR 60.48c(i)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these recordkeeping requirements are not met.

G. Diesel fuel-fired emergency generators identified as follows:

ID Number	Size of Generator (horsepower)	Building Location
ES-7547-01	1,115	Duke Hospital North No. 1
ES-7547-02	1,115	Duke Hospital North No. 2
ES-7547-03A	2,937	Duke Hospital North No. 3
ES-7547-04	1,115	Duke Hospital North No. 4
ES-7531-04	968	Duke Eye Center
ES-7549-01	645	DUMC, Jones Building
ES-7579-01	1,809	DUMC, Bryan Res. Bldg. No. 1
ES-7579-02	1,809	DUMC, Bryan Res. Bldg. No. 2
ES-7776-02	900	Duke University, LSRC I (Indoors)
ES-7746-01	850	Tel. Com. Bldg.
ES-7765-01	610	Gross Chemistry
ES-7754-09	2,168	Steam Plant
ES-7516-01	2,520	MSRB
ES-7593-01	2,068	North Pavilion
ES-7547-05	2,304	Duke Hospital North
ES-7508-03	1,109	Duke Clinics West Infill
ES-7542-01	1,586	CCIF No. 1
ES-7542-02	1,586	CCIF No. 2
ES-7540-01	1,591	GSRB I
ES-7526-01	1,592	GSRB II
ES-7764-01	772	Primate Center
ES-7704-02	764	Perkins Library
ES-7735-01	1,085	CIEMAS Building
ES-7582-01	516	DUMC Parking Garage #3
ES-7777-01	533	Wilson Rec.
ES-7795-01	749	WEL Dorm
ES-7524-03	765	Surgical Pavilion
ES-7514-01	1,700	MSRB#2
ES-7738-01	2,876	French Science Center
ES-7559-01	2,937	Cancer Center
NSPS IIII GACT ZZZZ		
ES-7XXA-01	2,995	A/MC 1
NSPS IIII GACT ZZZZ		
ES-7XXB-01	2,995	A/MC 2
NSPS IIII GACT ZZZZ		
ES-7XXC-01	1,600	A/MC 3
NSPS IIII GACT ZZZZ		
ES-7XXD-01	1,600	A/MC 4
NSPS IIII GACT ZZZZ		
ES-7XXE-01	1,600	A/MC 5
NSPS IIII GACT ZZZZ		
ES-7XXF-01	1,600	A/MC 6
NSPS IIII GACT ZZZZ		
ES-7XXG-01	749	A/MC 7
NSPS IIII GACT ZZZZ		
ES-7XXH-01	749	A/MC 8
NSPS IIII GACT ZZZZ		

ID Number	Size of Generator (horsepower)	Building Location
ES-7XXI-01 NSPS III GACT ZZZZ	749	A/MC 9
ES-7XXJ-01 NSPS III GACT ZZZZ	749	A/MC 10
ES-7754-15 NSPS III GACT ZZZZ	4,678	West Campus Steam Plant
ES-7561-01 NSPS III GACT ZZZZ	619	Duke Eye Center
ES-7555-01 NSPS III GACT ZZZZ	1,141	GHRB
ES-7254-16 NSPS III GACT ZZZZ	1,370	East Campus Steam Plant
ES-7796-01 NSPS III GACT ZZZZ	4,678	West Campus Chilled Water Plant #1
ES-7547-02B NSPS III GACT ZZZZ	1,474	Duke Hospital North No. 2
ES-7524-02 NSPS III GACT ZZZZ	2,206	MSRB No. 3
ES-7547-04B NSPS III GACT ZZZZ	1,474	Duke Hospital North No. 4

Diesel fuel-fired non emergency generators identified as follows:

ID Number	Size of Generator (horsepower)	Building Location
ES-7855-01 NSPS (III) GACT (ZZZZ)	4,678	West Campus Chilled Water Plant No. 2
ES-7855-02 NSPS (III) GACT (ZZZZ)	4,678	West Campus Chilled Water Plant No. 2
ES-7855-03 NSPS (III) GACT (ZZZZ)	4,678	West Campus Chilled Water Plant No. 2
ES-7855-04 NSPS (III) GACT (ZZZZ)	4,678	West Campus Chilled Water Plant No. 2

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Sulfur dioxide	2.3 pounds per million Btu heat input. Only for emergency generators (ID Nos. ES-7547-01, ES-7547-02, ES-7547-04, ES-7547-02B, ES-7547-03A, ES-7547-04B, ES-7531-04, ES-7549-01, ES-7579-01, ES-7579-02, ES-7776-02, ES-7746-01, ES-7765-01, ES-7754-09, ES-7516-01, ES-7593-01, ES-7547-05, ES-7508-03, ES-7542-01, ES-7542-02, ES-7540-01, ES-7526-01, ES-7764-01, ES-7704-02, ES-7735-01, ES-7582-01, ES-7777-01, ES-7795-01, ES-7524-03, ES-7514-01, ES-7738-01, ES-7555-01, ES-7254-16, and ES-7796-01)	15A NCAC 02D .0516
Visible emissions	20 percent opacity. For engines (ID Nos. ES-7547-01, ES-7547-02, ES-7547-04, ES-7547-02B, ES-7547-03A, ES-7547-04B, ES-7531-04, ES-7549-01, ES-7579-01, ES-7579-02, ES-7776-02, ES-7746-01, ES-7765-01, ES-7754-09, ES-7516-01, ES-7593-01, ES-7547-05, ES-7508-03, ES-7542-01, ES-7542-02, ES-7540-01, ES-7526-01, ES-7764-01, ES-7704-02, ES-7735-01, ES-7582-01, ES-7777-01, ES-7795-01, ES-7524-03, ES-7514-01, ES-7738-01, ES-7559-01, ES-7XXA-01, ES-7XXB-01, ES-7XXC-01, ES-7XXD-01, ES-7XXE-01, ES-7XXF-01, ES-7XXG-01, ES-7XXH-01, ES-7XXI-01, ES-7XXJ-01, ES-7754-15, ES-7561-01, ES-7855-01, ES-7855-02, ES-7855-03, ES-7855-04, ES-7555-01, ES-7254-16, and ES-7796-01)	15A NCAC 02D .0521
Nitrogen oxides (NO _x)	<u>Non-Attainment New Source Review Avoidance</u> Three (3) emergency generators: (ID Nos. ES-7514-01, ES-7738-01, and ES-7559-01): Less than 40 tpy	15A NCAC 02Q .0317 (15A NCAC 02D .0531)
	<u>PSD Review Avoidance</u> Ten (10) emergency generators: (ID Nos. ES-7XXA-01 through ES-7XXJ-01) Less than 40 tpy total	15A NCAC 02Q .0317 (15A NCAC 02D .0530)
NMHC + NO _x , HC, NO _x , CO, PM	Purchase engine certified to meet the applicable engine design emission limits For engines (ID Nos. ES-7559-01, ES-7XXA-01, ES-7XXB-01, ES-7XXC-01, ES-7XXD-01, ES-7XXE-01, ES-7XXF-01, ES-7XXG-01, ES-7XXH-01, ES-7XXI-01, ES-7XXJ-01, ES-7754-15, ES-7561-01, ES-7855-01, ES-7855-02, ES-7855-03, ES-7855-04, ES-7555-01, ES-7254-16, and ES-7796-01)	15A NCAC 02D .0524 40 CFR Part 60, Subpart III

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous air pollutants	Can meet the requirements of NSPS, Subpart IIII, 40 CFR 63.6590(c) to meet the requirements of MACT Subpart ZZZZ For engines (ID Nos. ES-7559-01, ES-7XXA-01, ES-7XXB-01, ES-7XXC-01, ES-7XXD-01, ES-7XXE-01, ES-7XXF-01, ES-7XXG-01, ES-7XXH-01, ES-7XXI-01, ES-7XXJ-01, ES-7754-15, ES-7561-01, ES-7855-01, ES-7855-02, ES-7855-03, ES-7855-04, and ES-7796-01)	15A NCAC 02D .1111 40 CFR Part 63, Subpart ZZZZ

1. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

- a. Emissions of sulfur dioxide from these emergency generators (ID Nos. ES-7547-01, ES-7547-02, ES-7547-04, ES-7547-02B, ES-7547-03A, ES-7547-04B, ES-7531-04, ES-7549-01, ES-7579-01, ES-7579-02, ES-7776-02, ES-7746-01, ES-7765-01, ES-7754-09, ES-7516-01, ES-7593-01, ES-7547-05, ES-7508-03, ES-7542-01, ES-7542-02, ES-7540-01, ES-7526-01, ES-7764-01, ES-7704-02, ES-7735-01, ES-7582-01, ES-7777-01, ES-7795-01, ES-7524-03, ES-7514-01, ES-7738-01, ES-7555-01, ES-7254-16, and ES-7796-01) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping is required for sulfur dioxide emissions from burning diesel fuel in these emergency generators (ID Nos. ES-7547-01, ES-7547-02, ES-7547-04, ES-7547-02B, ES-7547-03A, ES-7547-04B, ES-7531-04, ES-7549-01, ES-7579-01, ES-7579-02, ES-7776-02, ES-7746-01, ES-7765-01, ES-7754-09, ES-7516-01, ES-7593-01, ES-7547-05, ES-7508-03, ES-7542-01, ES-7542-02, ES-7540-01, ES-7526-01, ES-7764-01, ES-7704-02, ES-7735-01, ES-7582-01, ES-7777-01, ES-7795-01, ES-7524-03, ES-7514-01, ES-7738-01, ES-7555-01, ES-7254-16, and ES-7796-01).

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

- a. Visible emissions from these generators (ID Nos. ES-7547-01, ES-7547-02, ES-7547-04, ES-7547-02B, ES-7547-03A, ES-7547-04B, ES-7531-04, ES-7549-01, ES-7579-01, ES-7579-02, ES-7776-02, ES-7746-01, ES-7765-01, ES-7754-09, ES-7516-01, ES-7593-01, ES-7547-05, ES-7508-03, ES-7542-01, ES-7542-02, ES-7540-01, ES-7526-01, ES-7764-01, ES-7704-02, ES-7735-01, ES-7582-01, ES-7777-01, ES-7795-01, ES-7524-03, ES-7514-01, ES-7738-01, ES-7559-01, ES-7XXA-01, ES-7XXB-01, ES-7XXC-01, ES-7XXD-01, ES-7XXE-01, ES-7XXF-01, ES-7XXG-01, ES-7XXH-01, ES-7XXI-01, ES-7XXJ-01, ES-7754-15, ES-7561-01, ES-7855-01, ES-7855-02, ES-7855-03, ES-7855-04, ES-7555-01, ES-7254-16, ES-7796-01, ES-7547-02B and ES-7524-02) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity.

Testing [15A NCAC 02Q .0508(f)]

- b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.2.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

- c. No monitoring/recordkeeping/reporting is required for visible emissions from the firing of diesel fuel in these emergency generators (**ID Nos. ES-7547-01, ES-7547-02, ES-7547-04, ES-7547-02B, ES-7547-03A, ES-7547-04B, ES-7531-04, ES-7549-01, ES-7579-01, ES-7579-02, ES-7776-02, ES-7746-01, ES-7765-01, ES-7754-09, ES-7516-01, ES-7593-01, ES-7547-05, ES-7508-03, ES-7542-01, ES-7542-02, ES-7540-01, ES-7526-01, ES-7764-01, ES-7704-02, ES-7735-01, ES-7582-01, ES-7777-01, ES-7795-01, ES-7524-03, ES-7514-01, ES-7738-01, ES-7559-01, ES-7XXA-01, ES-7XXB-01, ES-7XXC-01, ES-7XXD-01, ES-7XXE-01, ES-7XXF-01, ES-7XXG-01, ES-7XXH-01, ES-7XXI-01, ES-7XXJ-01, ES-7754-15, ES-7561-01, ES-7855-01, ES-7855-02, ES-7855-03, ES-7855-04, ES-7555-01, ES-7254-16, ES-7796-01, ES-7547-02B and ES-7524-02**).

3. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS

15A NCAC 02D .0531: SOURCES IN NON-ATTAINMENT AREAS

- a. In order to avoid applicability of this regulation, the three (3) emergency generators (**ID Nos. ES-7514-01, ES-7738-01, and ES-7559-01**) identified above shall discharge into the atmosphere less than 40 tons of NO_x per consecutive 12-month period.

Monitoring/Recordkeeping [15A NCAC 02Q .0508 (f)]

- b. Each month, the Permittee shall calculate the total NO_x emissions from the three affected emergency generators (**ID Nos. ES-7514-01, ES-7738-01, and ES-7559-01**) for the previous calendar month and the previous 12-month period. The NO_x emissions shall be calculated using either:
 - i. Manufacturer-supplied NO_x emission factors, if available, or,
 - ii. The most current uncontrolled NO_x emission factors listed in U.S. EPA's AP-42 (AP-42, Volume 1, Fifth Edition – January 1995 currently lists these as 2.4×10^{-2} lb/hp-hr for generators greater than 600 hp or 3.10×10^{-2} lb/hp-hr for generators less than 600 hp).

NO_x emissions shall be determined based on run time and operating horsepower. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0531 if the emergency generators' runtime, operating horsepower, and NO_x emissions are not monitored and recorded.
- c. The Permittee shall maintain documentation of each manufacturer-provided NO_x emission factor used in the monthly NO_x compliance demonstration. Manufacturer-supplied equipment specifications with emissions data may be used as documentation. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0531 if the documentation of manufacturer-supplied emissions factors used in the required compliance demonstration is not retained as described above.
- d. Calculations and the total amount of NO_x emissions shall be recorded monthly in a log (written or electronic format). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0531 if the NO_x emissions exceed this limit.

Reporting [15A NCAC 02Q .0508(f)]

- e. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the monthly NO_x emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months.

4. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS

15A NCAC 02D.0530: PREVENTION OF SIGNIFICANT DETERIORATION

- a. In order to avoid applicability of this regulation, the four (4) non emergency generators (**ID Nos. ES-7855-01, ES-7855-02, ES-7855-03 and ES-7855-04**) shall discharge into the atmosphere less than 40 tons of NO_x total per consecutive 12-month period.

Monitoring/Recordkeeping [15A NCAC 02Q .0508 (f)]

- b. Each month, the Permittee shall calculate the total NO_x emissions from the four affected non emergency generators (**ID Nos. ES-7855-01, ES-7855-02, ES-7855-03 and ES-7855-04**) for the previous calendar month and the previous 12-month period. The NO_x emissions shall be calculated using either:
 - i. Manufacturer-supplied NO_x emission factors, if available, or,
 - ii. The most current uncontrolled NO_x emission factors listed in U.S. EPA's AP-42 (AP-42, Volume 1, Fifth Edition – January 1995 currently lists these as 2.4×10^{-2} lb/hp-hr for generators greater than 600 hp or 3.10×10^{-2} lb/hp-hr for generators less than 600 hp).
 NO_x emissions shall be determined based on run time and operating horsepower. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the emergency generators' runtime, operating horsepower, and NO_x emissions are not monitored and recorded.
- c. The Permittee shall maintain documentation of each manufacturer-provided NO_x emission factor used in the monthly NO_x compliance demonstration. Manufacturer-supplied equipment specifications with emissions data may be used as documentation. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the documentation of manufacturer-supplied emissions factors used in the required compliance demonstration is not retained as described above.
- d. Calculations and the total amount of NO_x emissions shall be recorded monthly in a log (written or electronic format). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the NO_x emissions exceed this limit.

Reporting [15A NCAC 02Q .0508(f)]

- e. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the monthly NO_x emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months.

5. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS**15A NCAC 02D.0530: PREVENTION OF SIGNIFICANT DETERIORATION**

- a. In order to avoid applicability of this regulation, the ten (10) emergency generators (**ID Nos. ES-7XXA-01 through ES-7XXJ-01**) shall discharge into the atmosphere less than 40 tons of NO_x total per consecutive 12-month period.

Monitoring/Recordkeeping [15A NCAC 02Q .0508 (f)]

- b. Each month, the Permittee shall calculate the total NO_x emissions from the ten affected emergency generators (**ID Nos. ES-7XXA-01 through ES-7XXJ-01**) for the previous calendar month and the previous 12-month period. The NO_x emissions shall be calculated using either:
 - i. Manufacturer-supplied NO_x emission factors, if available, or,
 - ii. The most current uncontrolled NO_x emission factors listed in U.S. EPA's AP-42 (AP-42, Volume 1, Fifth Edition – January 1995 currently lists these as 2.4×10^{-2} lb/hp-hr for generators greater than 600 hp or 3.10×10^{-2} lb/hp-hr for generators less than 600 hp).
 NO_x emissions shall be determined based on run time and operating horsepower. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the emergency generators' runtime, operating horsepower, and NO_x emissions are not monitored and recorded.
- c. The Permittee shall maintain documentation of each manufacturer-provided NO_x emission factor used in the monthly NO_x compliance demonstration. Manufacturer-supplied equipment specifications with emissions data may be used as documentation. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the documentation of manufacturer-supplied emissions factors used in the required compliance demonstration is not retained as described above.
- d. Calculations and the total amount of NO_x emissions shall be recorded monthly in a log (written or electronic format). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the

NO_x emissions exceed this limit.

Reporting [15A NCAC 02Q .0508(f)]

- e. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the monthly NO_x emissions for the previous 17 months. The emissions must be calculated for each of the 12-month periods over the previous 17 months.

6. **15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS, STANDARDS OF PERFORMANCE FOR STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES [40 CFR 60 SUBPART III] (For units manufactured after April 1, 2006)**

- **ES-7559-01 (Diesel fuel-fired emergency generator, 2,937 hp)**
- **ES-7XXA-01 (Diesel fuel-fired emergency generator, 2,995 hp)**
- **ES-7XXB-01 (Diesel fuel-fired emergency generator, 2,995 hp)**
- **ES-7XXC-01 (Diesel fuel-fired emergency generator, 1,600 hp)**
- **ES-7XXD-01 (Diesel fuel-fired emergency generator, 1,600 hp)**
- **ES-7XXE-01 (Diesel fuel-fired emergency generator, 1,600 hp)**
- **ES-7XXF-01 (Diesel fuel-fired emergency generator, 1,600 hp)**
- **ES-7XXG-01 (Diesel fuel-fired emergency generator, 749 hp)**
- **ES-7XXH-01 (Diesel fuel-fired emergency generator, 749 hp)**
- **ES-7XXI-01 (Diesel fuel-fired emergency generator, 749 hp)**
- **ES-7XXJ-01 (Diesel fuel-fired emergency generator, 749 hp)**
- **ES-7754-15 (Diesel fuel-fired emergency generator, 4,678 hp)**
- **ES-7561-01 (Diesel fuel-fired emergency generator, 619 hp)**
- **ES-7555-01 (Diesel fuel-fired emergency generator, 1,141 hp)**
- **ES-7254-16 (Diesel fuel-fired emergency generator, 1,370 hp)**
- **ES-7796-01 (Diesel fuel-fired emergency generator, 4,678 hp)**
- **ES-7547-02B (Diesel fuel-fired emergency generator, 1,474 hp)**
- **ES-7524-02 (Diesel fuel-fired emergency generator, 2,206 hp)**
- **ES-7547-04B (Diesel fuel-fired emergency generator, 1,474 hp)**

Applicability

- a. For the engines listed above, the Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart III, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines," including Subpart A "General Provisions."

General Provisions [15A NCAC 02Q .0508(f)]

- b. Pursuant to 40 CFR 60 .4218, The Permittee shall comply with the General Provisions of 40 CFR 60 Subpart A as presented in Table 8 of 40 CFR 60 Subpart III.

Emission Standards [15A NCAC 02Q .0508(f)]

- c. The Permittee shall comply with the emission standards 40 CFR 60.4202 for all pollutants, for the same model year maximum engine power for this engine. [40 CFR 60.4205(b)]

Fuel Requirements [15A NCAC 02Q .0508(f)]

- d. The Permittee shall use diesel fuel in the engine that meets the requirements of 40 CFR 80.510(b) including:
 - i. a maximum sulfur content of 15 ppm; and
 - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.[40 CFR 60.4207(b)]

Testing [15A NCAC 02Q .0508(f)]

- e. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.6.c and d above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

Monitoring [15A NCAC 02Q .0508(f)]

- f. The engine has the following monitoring requirements:
 - i. The engines shall be equipped with a non-resettable hour meter prior to startup. [40 CFR 60.4209(a)]
 - ii. The engine, if equipped with a diesel particulate filter, must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. [40 CFR 60.4209(b)]

Compliance Requirements [15A NCAC 02Q .0508(b)]

- g. The Permittee shall:
 - i. operate and maintain the engines and control devices according to the manufacturer's emission related-written instructions over the entire life of the engine;
 - ii. change only those emission-related settings that are permitted by the manufacturer; and
 - iii. meet the requirements of 40 CFR 89, 94 and/or 1068 as applicable. [40CFR 60.4206 and 60.4211(a)]
- h. The Permittee shall comply with the emission standards in Section 2.1 G.6.c by purchasing an engine certified to the emission standards in condition c for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications. [40CFR 60.4211(c)]
- i. In order for the engine to be considered an emergency stationary ICE under this condition, any operation other than emergency operation, maintenance and testing, and operation in non- emergency situations for 50 hours per year, as described below, is prohibited.
 - (1) There is no time limit on the use of emergency stationary ICE in emergency situations.
 - (2) The Permittee may operate the emergency stationary ICE for any combination of the purposes specified in paragraph (i)(2)(i) of this condition for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (i)(3) of this condition counts as part of the 100 hours per calendar year allowed by this paragraph (i)(2).
 - (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
 - (3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (i)(2) of this condition. Except as provided in paragraph (i)(3)(i) of this condition, the 50 hours per calendar year for non- emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
 - (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
 - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
 - (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.
 - (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
 - (D) The power is provided only to the facility itself or to support the local transmission and distribution system.

- (E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR 60.4211(f)]

- j. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the requirements in Section 2.1 G.6.f through i are not met.

Recordkeeping [15A NCAC 02Q .0508(f)]

- k. The results of inspection and maintenance made pursuant to Section 2.1 G.6.g shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on the engine;
 - iv. any variance from manufacturer's recommendations, if any, and corrections made;
 - v. the hours of operation of the engine in emergency and non-emergency service; [40 CFR 60.4214(b)]
 - vi. if a PM filter is used, records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached [40 CFR 60.4214(c)]; and
 - vii. documentation from the manufacturer that the engine is certified to meet the emission standards in Section 2.1 G.6.c.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

- l. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of noncompliance with the requirements of this permit shall be clearly identified.
- m. If the Permittee owns or operates an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates for the purposes specified in Section 2.1 G.6.i(3)(i), the Permittee shall submit an annual report according to the requirements at 40 CFR 60.4214(d). This report must be submitted to the Regional Supervisor and the EPA. [40 CFR 60.4214(d)]

7. 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS, STANDARDS OF PERFORMANCE FOR STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES (*NON EMERGENCY GENERATORS*) [40 CFR 60 SUBPART III] (For units manufactured after April 1, 2006)

- ES-7855-01 (Diesel fuel-fired non emergency generator, 4,678 hp)
- ES-7855-02 (Diesel fuel-fired non emergency generator, 4,678 hp)
- ES-7855-03 (Diesel fuel-fired non emergency generator, 4,678 hp)
- ES-7855-04 (Diesel fuel-fired non emergency generator, 4,678 hp)

Applicability [15A NCAC 02Q .0508(f), 40 CFR 60.4200(a)(2)(i)]

- a. For these engines (**ID Nos. ES-7855-01 through ES-7855-04**), the Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart III, "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines," including Subpart A "General Provisions."

General Provisions [15A NCAC 02Q .0508(f)]

- b. Pursuant to 40 CFR 60 .4218, The Permittee shall comply with the General Provisions of 40 CFR 60 Subpart A as presented in Table 8 of 40 CFR 60 Subpart III.

Emission Standards [15A NCAC 02Q .0508(f)]

- c. The Permittee shall comply with the emission standards for new nonroad CI engines in 40 CFR 60.4201 for the same model year and maximum engine power for this engine. [40CFR 60.4204(b)]

Fuel Requirements [15A NCAC 02Q .0508(f)]

- d. The Permittee shall use diesel fuel in the engine with:
 - i. a maximum sulfur content of 15 ppm; and
 - ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.[40 CFR 60.4207(b) and 40 CFR 80.510(b)]

Testing [15A NCAC 02Q .0508(f)]

- e. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 G.7.c and d above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

Monitoring [15A NCAC 02Q .0508(f)]

- f. The engine has the following monitoring requirements:
 - i. The engine, if equipped with a diesel particulate filter, must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. [40 CFR 60.4209(b)]

Compliance Requirements [15A NCAC 02Q .0508(b)]

- g. The Permittee shall:
 - i. operate and maintain the engines and control devices according to the manufacturer's emission related-written instructions over the entire life of the engine;
 - ii. change only those emission-related settings that are permitted by the manufacturer; and
 - iii. meet the requirements of 40 CFR 89, 94 and/or 1068 as applicable.[40CFR 60.4206 and 60.4211(a)]
- h. The Permittee shall comply with the emission standards in Section 2.1 G.7.c by purchasing an engine certified to the emission standards in Section 2.1 G.7.c. The engine shall be installed and configured according to the manufacturer's emission-related specifications. [40CFR 60.4211(c)]
- i. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524, if the requirements in Sections 2.1 G.7.f through h are not met.

Recordkeeping [15A NCAC 02Q .0508(f)]

- j. To assure compliance, the Permittee shall perform inspections and maintenance on the engine as recommended by the manufacturer per 40 CFR 60.4206 and 40 CFR 60.4211(a). The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
 - i. the date and time of each recorded action;
 - ii. the results of each inspection;
 - iii. the results of any maintenance performed on the engine;
 - iv. any variance from manufacturer's recommendations, if any, and corrections made;
 - v. if a PM filter is used, records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached [40 CFR 60.4214(c)]; and

- vi. documentation from the manufacturer that the engine is certified to meet the emission standards in Section 2.1 G.7.c.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

- k. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of noncompliance with the requirements of this permit shall be clearly identified.

8. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

40 CFR Part 63, Subpart ZZZZ “National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)”

- ES-7559-01 (Diesel fuel-fired emergency generator, 2,937 hp)
- ES-7855-01 (Diesel fuel-fired non emergency generator, 4,678 hp)
- ES-7855-02 (Diesel fuel-fired non emergency generator, 4,678 hp)
- ES-7855-03 (Diesel fuel-fired non emergency generator, 4,678 hp)
- ES-7855-04 (Diesel fuel-fired non emergency generator, 4,678 hp)
- ES-7XXA-01 (Diesel fuel-fired emergency generator, 2,995 hp)
- ES-7XXB-01 (Diesel fuel-fired emergency generator, 2,995 hp)
- ES-7XXC-01 (Diesel fuel-fired emergency generator, 1,600 hp)
- ES-7XXD-01 (Diesel fuel-fired emergency generator, 1,600 hp)
- ES-7XXE-01 (Diesel fuel-fired emergency generator, 1,600 hp)
- ES-7XXF-01 (Diesel fuel-fired emergency generator, 1,600 hp)
- ES-7XXG-01 (Diesel fuel-fired emergency generator, 749 hp)
- ES-7XXH-01 (Diesel fuel-fired emergency generator, 749 hp)
- ES-7XXI-01 (Diesel fuel-fired emergency generator, 749 hp)
- ES-7XXJ-01 (Diesel fuel-fired emergency generator, 749 hp)
- ES-7754-15 (Diesel fuel-fired emergency generator, 4,678 hp)
- ES-7561-01 (Diesel fuel-fired emergency generator, 619 hp)
- ES-7555-01 (Diesel fuel-fired emergency generator, 1,141 hp)
- ES-7254-16 (Diesel fuel-fired emergency generator, 1,370 hp)
- ES-7796-01 (Diesel fuel-fired emergency generator, 4,678 hp)
- ES-7547-02B (Diesel fuel-fired emergency generator, 1,474 hp)
- ES-7524-02 (Diesel fuel-fired emergency generator, 2,206 hp)
- ES-7547-04B (Diesel fuel-fired emergency generator, 1,474 hp)

Applicability [40 CFR 63.6585, 6590(a)(2)(iii)]

- a. For these sources listed above (new stationary RICE located at an area source of HAP emissions), the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, Subpart ZZZZ, “National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines” and Subpart A “General Provisions.”

Stationary RICE subject to Regulations under 40 CFR Part 60 [15 A NCAC 02Q. 0508(f)]

- b. Pursuant to 40 CFR 63.6590(c)(1), these sources must meet the requirements of 40 CFR 63 Subpart ZZZZ and Subpart A by meeting the requirements of 40 CFR 60 Subpart IIII. No further requirements apply for these engines under 40 CFR 63 Subpart ZZZZ and Subpart A. If these requirements are not met, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

9. 15A NCAC 02D .1111, 40 CFR Part 63, Subpart ZZZZ “National Emission Standards for Hazardous Air Pollutants for “EXISTING” Stationary Reciprocating Internal Combustion Engines (RICE) Located At an Area Source of Hazardous Air Pollutants (HAPs)

Applicability [40 CFR 63.6585, 63.6590(a)(1)(iii)]

- a. For **these emission sources (existing stationary RICE located at an area source of HAP emissions)**, the Permittee shall comply with all applicable provisions, including the monitoring, recordkeeping, and reporting contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR 63, “Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines” and Subpart A “General Provisions.”

Definitions and Nomenclature

- b. For the purposes of this permit condition, the definitions and nomenclature contained in 40 CFR 63.6675 shall apply.

Applicability Date [40 CFR 63.6595(a)(1)]

- c. The Permittee shall comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013.

Notifications [40 CFR 63.6645(a)(5)]

- d. The Permittee has no notification requirements.

General Provisions [40 CFR 63.6665]

- e. The Permittee shall comply with the General Provisions as applicable pursuant to Table 8 of 40 CFR 63 Subpart ZZZZ

Operating and Maintenance Requirements [15A NCAC 02Q .0508(b)]

- f. During periods of startup of the IC engine, the Permittee shall minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR 63.6603(a), Table 2d and 63.6625(h)]
- g. Except during periods of startup of the IC engine, the Permittee shall:
- i. Change oil and filter every 500 hours of operation or annually, whichever comes first;
 - ii. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and
 - iii. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary
- [40 CFR 63.6603(a), Table 2d]
- h. The Permittee shall have the option to utilize the oil analysis program as described in 40 CFR 63.6625(i) in order to extend the specified oil change requirement in Section 2.1 G.9.g. [40 CFR 63.6603(a), Table 2 ,63.6625(i)]
- i. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Section 2.1 G.9.g, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable. [40 CFR 63.6603(a), Table 2d]

- j. The permittee shall be in compliance with the emission limitations, operating limitations and other requirements that apply at all times. [40 CFR 63.6605(a)]
- k. The Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]
- l. The Permittee shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop a maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6625(e) and 63.6640(a), Table 6]
- m. In order for the engine to be considered an emergency stationary RICE under this condition, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (1) through (3) below, is prohibited.
 - (1) There is no time limit on the use of emergency stationary RICE in emergency situations.
 - (2) The Permittee may operate emergency stationary RICE for any combination of the purposes specified in paragraph (2)(i) below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (3) below counts as part of the 100 hours per calendar year allowed by this paragraph (2).
 - (i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.
 - (3) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (m)(2) above. Except as provided in paragraph (3)(i) below, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
 - (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
 - (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.
 - (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

- (C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.
- (D) The power is provided only to the facility itself or to support the local transmission and distribution system.
- (E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR 63.6640(f)(1), (2) and (4)]

- n. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 G.9 e through m are not met.

Fuel Requirements [15A NCAC 02Q .0508(f), 40 CFR 63.6604(b)]

- o. Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates for the purpose specified in Section 2.1 G.9.m(3)(i) above, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Monitoring [15A NCAC 02Q .0508(f)]

- p. The Permittee shall install a non-resettable hour meter on the IC engine if one is not already installed. [40 CFR 63.6625(f)]

Recordkeeping [15A NCAC 02Q .0508(f)]

- q. The Permittee shall keep the following:
 - i. A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv)[40 CFR 63.6655(a)(1)];
 - ii. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment [40 CFR 63.6655(a)(2)];
 - iii. Records of all required maintenance performed on the air pollution control and monitoring equipment [40 CFR 63.6655(a)(4)];
 - iv. Records of actions taken during periods of malfunction to minimize emissions in accordance with Section 2.1 G.9.k, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation [40 CFR 63.6655(a)(5)];
 - v. Records of the maintenance conducted on the RICE pursuant to Section 2.1 G.9.l [40 CFR 63.6655(d) and (e)];
 - vi. Records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The Permittee shall document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. [40 CFR 63.6655(f)]
 - (A) If the engine is used for the purposes specified in Section 2.1 G.9.m(3)(i) above, the owner or operator must keep records of the notification of the situation, and the date, start time, and end time of engine operation for these purposes. [40 CFR 63.6655(f)]
 - vii. each record in a form suitable and readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). [40 CFR 63.6660(a), (b), (c)]

- r. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.1 G.9.o through q are not met.

Reporting [15A NCAC 02Q .0508(f)]

- s. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of noncompliance must be clearly identified. [40 CFR 63.6640(b), (e) and 63.6650(f)]
- t. The summary report shall also include any reporting required under Section 2.1 G.9.i, as necessary. [40 CFR 63.6603(a), Table 2d]
- u. If the Permittee owns or operates an emergency stationary RICE with a site rating of more than 100 brake HP that operates for the purpose specified in Section 2.1 G.9.m(3)(i) above, the Permittee shall submit an annual report according to the requirements at 40 CFR 63.6650(h). This report must be submitted to the Regional Supervisor and the EPA. [40 CFR 63.6650(h)]
- v. The Permittee shall be deemed in noncompliance with the reporting requirements of 15A NCAC 02D .1111 if the requirements in Section 2.1 G.9.s through u are not met.

H. Ethylene Oxide Sterilizers (8 cubic feet, ID Nos. ES-7531-01 through ES-7531-03 and ES-7547-06 through ES-7547-09) and associated Ethylene Oxide Abator Units (ID Nos. CD-7531-A, CD-7547-A, CD-7547-B)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants (HAP)	Maximum Achievable Control Technology (MACT) (See Section 2.2-E. – Multiple Emission Sources)	15A NCAC 02D .1111 (40 CFR 63, Subpart WWWW)
Odors	Odorous Emissions; State-enforceable only (See Section 2.2-C. – Multiple Emission Sources)	15A NCAC 02D .1806
Toxic air pollutants (TAP)	18.02 pounds of ethylene oxide emissions per year; State-enforceable only	15A NCAC 02D .1100

STATE-ONLY REQUIREMENT

1. **TOXIC AIR POLLUTANT EMISSIONS LIMITATION AND REPORTING REQUIREMENT** - Pursuant to 15A NCAC 02D .1100 and the air toxic compliance demonstration approved September 30, 2008, the modeled emission rate in the following table shall not be exceeded. Toxic air pollutant emissions shall be controlled in accordance with the provisions of applicable regulations pursuant to 40 CFR 63; Subpart WWWW “National Emission Standards for Hospital Ethylene Oxide Sterilizer” as specified in Permit Condition 2.2.E. The Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .1100 if the facility does not operate the ethylene oxide control devices (**ID Nos. CD-7531-A, CD-7547-A, and CD-7547-C**) during all sterilization processes and in accordance with the manufacturer’s recommended procedures.

EMISSION SOURCES	TOXIC AIR POLLUTANT	EMISSION LIMIT
Ethylene oxide sterilizers (ID Nos. ES-7531-01 through ES-7531-03, and ES-7547-06 through ES-7547-09)	Ethylene oxide	18.02 pounds per year

2. 15A NCAC 02D .1111: 40 CFR Part 63, Subpart WWWW, National Emission Standards for Hazardous Air Pollutants for Hospital Ethylene Oxide Sterilizers

The Permittee shall comply with all applicable provisions contained in Environmental Management Commission Standard 15A NCAC 02D .1111, "Maximum Achievable Control Technology" (MACT) Subpart WWWW "National Emission Standards for Hospital Ethylene Oxide Sterilizers (NESHAP)" as promulgated in 40 CFR 63.10382.

2.2 - Multiple Emission Source(s) Specific Limitations and Conditions

- A. Boilers Nos. 4 and 5: Two natural gas/No. 2/ Low sulfur No. 4/ recycled No. 2/recycled low sulfur No. 4 fuel oil-fired boilers (ID Nos. ES-7754-04 and 05); and
Boiler No. 6: One natural gas/No. 2/Low sulfur No. 4/ recycled No. 2/recycled low sulfur No. 4 fuel oil-fired boiler (ID No. ES-7754-06)**

STATE-ONLY REQUIREMENT

- 1. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS – Recycled Fuel Oil (No. 2 Equivalent)
Requirements to Avoid Toxic Air Pollutant Control Rules [Avoidance of 15A NCAC 02D .1100]**
 - a. In accordance with Rule 02Q .0317, the Permittee is avoiding the applicability of Rule 02Q .0700 by using recycled fuels which are equivalent to their virgin counterparts. The Permittee is allowed to use the recycled fuel oil(s) supplied by a DAQ-approved vendor as follows: [15A NCAC 02Q .0702]

Specifications - The recycled fuel oil(s) shall be equivalent to unadulterated fossil fuel by meeting the following criteria:

Constituent/Property	Allowable Level
Arsenic	1.0 ppm maximum
Cadmium	2.0 ppm maximum
Chromium	5.0 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash Point	
No. 2	100°F minimum
No. 4	130°F minimum
No. 5	175°F minimum
No. 6	175°F minimum
Sulfur	
No. 2	0.5% maximum (by weight)
No. 4	2.0% maximum (by weight)
No. 4 (Low sulfur)	0.5% maximum (by weight)
No. 5	2.0% maximum (by weight)
No. 6	2.0% maximum (by weight)
Ash	1.0% maximum

Testing [15A NCAC 02D .0605]

The DAQ reserves the right to require additional testing and/or monitoring of the recycled fuel oil(s) on an annual basis or without notice.

Monitoring/Recordkeeping [15A NCAC 02D .0605]

- b. The Permittee is responsible for ensuring that the recycled fuel oil(s), as received at the site, meet(s) the approved criteria for unadulterated fuel. The Permittee is held responsible for any discrepancies discovered by DAQ as a result of any sampling and analysis of the fuel oil(s).

- c. The Permittee shall maintain at the facility for a minimum of three years, and shall make available to representatives of the DAQ upon request, accurate records of the following:
 - i. The actual amount of recycled fuel oil(s) delivered to, and combusted at the facility on an annual basis.
 - ii. Each load of recycled fuel oil received shall include the following:
 - A. A delivery manifest document clearly showing the shipment content and amount, its place and date of loading, and place and date of destination;
 - B. A batch specific analytical report that contains an analysis for all constituents/properties listed above. Analytical results of the samples representative of the recycled oil shipment from the vendor shall be no more than one year old when received;
 - C. Batch signature information consisting of the following: a batch number, tank identification with batch volume of recycled oil, date and time the batch completed treatment, and volume(s) delivered; and
 - D. A certification indicating that the recycled fuel oil does not contain detectable PCBs (< 2 ppm).

Reporting [15A NCAC 02D .0605]

- d. Within 30 days after each calendar year, regardless of the amount received or combusted, the Permittee shall submit in writing to the Regional Supervisor, DAQ, the following:
 - i. A summary of the results of the analytical testing for the previous 12 months; and
 - ii. The total gallons of recycled fuel oil(s) from each approved vendor and combusted at the facility for the previous 12 months.

B. Facility-wide sources

The following table provides a summary of limits and standards for the emission source(s) describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Odorous emissions	State-enforceable only: Odorous emissions must be controlled	15A NCAC 02D .1806

STATE-ONLY REQUIREMENT

1. **15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS**
 - a. The Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions from the facility from causing or contributing to objectionable odors beyond the facility's boundary.
- C. Compression Ignition Internal Combustion Engines Ordered, Modified, or Reconstructed¹ after July 11, 2005**
 1. **15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS [40 CFR 60.4200 SUBPART III]²**
 - a. The Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart III, including Subpart A "General Provisions." [15A NCAC 02D .0524]

¹ As each generator affected by 40 CFR 60, Subpart III is installed, modified, or reconstructed the Permittee shall submit an application to administratively amend the permit. The application shall include the generator maximum power output, the displacement of each cylinder, and a statement indicating its primary use (i.e. emergency or non-emergency). See review for permit application No. 3200144.05C.

² The permit shield described in General Condition R does not apply to this condition.

D. Boilers Nos. 4 and 5: Two natural gas/No. 2/ Low sulfur No. 4/ recycled No. 2/recycled low sulfur No. 4 fuel oil-fired boilers (ID Nos. ES-7754-04 and ES-7754-05); and Boiler No. 6: One natural gas/No. 2/Low sulfur No. 4/recycled No. 2/recycled low sulfur No. 4 fuel oil-fired boiler (ID No. ES-7754-06)

The following table provides a summary of limits and standards for the emission source(s) describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Particulate matter Sulfur dioxide	<p>PSD Avoidance Condition <u>Multiple Sources: Boiler Nos. 4, 5, and 6 (ID No. ES-7754-04 through -06):</u> No. 4 fuel oil annual usage shall not exceed 8,400,000 gallons in the three boilers No. 4 fuel oil sulfur content shall not exceed 0.5 percent by weight.</p>	15A NCAC 02Q .0317 (15A NCAC 02D .0530)

1. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS

15A NCAC 02D.0530: PREVENTION OF SIGNIFICANT DETERIORATION³

- a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications in attainment areas, the increased PM₁₀ emissions from the combustion of Low sulfur No. 4 fuel oil and recycled low sulfur No. 4 in Boiler Nos. 4, 5, and 6 (**ID Nos. ES-7754-04 through -06**) shall not exceed 15 tons during any consecutive 12-month period and the maximum sulfur content of any No. 4 and recycled No. 4 fuel oil received and burned in these boilers shall not exceed 0.5 percent by weight.
- b. In order to assure compliance with the limitation(s) above, the total No.4 and recycled No. 4 fuel usage in the affected boilers shall not exceed 8,400,000 gallons per consecutive 12 months.

Testing [15A NCAC 02Q .0508(f)]

- c. If emissions testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.2 D.1.a above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

- d. The Permittee shall keep monthly records of No. 4 fuel usage in Boiler Nos. 4, 5, and 6 (**ID Nos. ES-7754-04 through -06**) in a logbook (written or in electronic format), as follows:
 - i. The total quantity (in 1,000 gal) of No. 4 fuel oil fired at the affected boilers; and,
 - ii. The fuel oil supplier certification for any No. 4 fuel oil fired at the affected boilers, including the sulfur content of the oil (in percent by weight).

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if records of the fuel usage and No. 4 fuel oil sulfur content are not created and retained as required above.
- e. Each calendar month, the Permittee shall calculate and/or record the No. 4 fuel usage and maximum sulfur content for Boiler Nos. 4, 5, and 6 (**ID Nos. ES-7754-04 through -06**) for the previous month and previous 12-month period and record the results in a logbook (written or electronic format).
 The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if records of the monthly usage and sulfur content listed above are not retained; if the 12-month rolling usage totals are greater than the limit provided above; or if the maximum sulfur content is exceeded.

³ See review of application No. 3200144.09E.

Reporting [15A NCAC 02Q .0508(f)]

- f. Within 30 days after each calendar year half, the Permittee shall report the following information to the Regional Supervisor, Division of Air Quality:
 - i. Monthly total No.4 fuel oil usage in the affected boilers (**ID Nos. ES-7754-04 through -06**) for the previous 17 months;
 - ii. The highest monthly sulfur content for the No. 4 fuel oil fired in the affected boilers (**ID Nos. ES-7754-04 through -06**) for the previous 17 months; and,
 - iii. 12-month No.4 fuel oil usage totals for the affected boilers (**ID Nos. ES-7754-04 through -06**) for each of the six 12-month periods over the previous 17 month period.

E. Three boilers: Boilers Nos. 4, 5, and 6: Three natural gas/No. 2/Low sulfur No. 4/ recycled No. 2/recycled low sulfur No. 4 fuel oil-fired boilers (ID Nos. ES-7754-04, ES-7754-05, and ES-7754-06)

**1. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY
40 CFR Part 63 Subpart JJJJJ: NATIONAL EMISSIONS STANDARD FOR HAZARDOUS AIR POLLUTANTS FOR AREA SOURCES: INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS**

Applicability [40 CFR 63.11193, 63.11194(a)(1), (b), 63.11200(c)]

- a. For the boilers (**ID Nos. ES-7754-04, ES-7754-05, and ES-7754-06**), the Permittee shall comply with all applicable provisions, including the notification, testing, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111, "Maximum Achievable Control Technology" as promulgated in 40 CFR 63, Subpart JJJJJ, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers", including Subpart A "General Provisions."

Definitions and Nomenclature

- b. For the purposes of this permit condition, the definitions and nomenclature contained in 40 CFR 63.11237 shall apply.

General Provisions [40 CFR 63.11235]

- c. The Permittee shall comply with the General Provisions as applicable pursuant to Table 8 of 40 CFR 63 Subpart JJJJJ.

Compliance Dates

- d. The Permittee shall achieve compliance with the initial tune up and energy assessment requirements no later than March 21, 2014. [40 CFR 63.11196(a)(1), (a)(3), 63.11210(c)]

Notification of Compliance Status [40 CFR 63.11225]

- e. The Permittee shall submit a Notification of Compliance Status no later than July 19, 2014. The Permittee met this requirement through electronic submittal on July 11, 2014, using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx).

General Compliance Requirements [15A NCAC 02Q .0508(b)]

- f. At all times the Permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the Permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to,

monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.11205(a)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Performance Tune-up Requirements [15A NCAC 02Q .0508(b)]

- g. The Permittee shall conduct an initial tune-up of the boiler and subsequent tune-ups biennially.
 - i. Each biennial tune-up shall be conducted no more than 25 months after the previous tune-up.
 - ii. The Permittee shall conduct the tune-ups while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.
 - iii. The tune-ups shall be conducted according to the following procedures:
 - (A) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.
 - (B) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
 - (C) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.
 - (D) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.
 - (E) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
 - (F) If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.
- [40 CFR 63.11201(b), Table 2, 40 CFR 63.11223(a), (b)]
- iv. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.2 G.1.g are not met.

Energy Assessment Requirements [15A NCAC 02Q .0508(b)]

- h. The Permittee shall conduct a one-time energy assessment performed by a qualified energy assessor. The energy assessment must include the following items, with the extent of the evaluation for items (i) to (iv) appropriate for the on-site technical hours listed in 40 CFR 63.11237:
 - i. A visual inspection of the boiler system,
 - ii. An evaluation of operating characteristics of the affected boiler systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints,
 - iii. An inventory of major energy use systems consuming energy from affected boiler(s) and which are under control of the boiler owner or operator,
 - iv. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage,
 - v. A list of major energy conservation measures that are within the facility's control,
 - vi. A list of the energy savings potential of the energy conservation measures identified, and
 - vii. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.
- [40 CFR 63.11201(b), Table 2]
- viii. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.2 G.1.h are not met.

Recordkeeping [15A NCAC 02Q .0508(f)]

- i. The Permittee shall maintain the following records:
 - i. As required in 40 CFR 63.10(b)(2)(xiv), the Permittee shall keep a copy of each notification and report that was submitted to comply with this rule and all documentation supporting any Notification of Compliance Status that was submitted.
 - ii. The Permittee shall maintain on-site and submit, if requested by the Administrator, a report containing the following information:
 - (A) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.
 - (B) A description of any corrective actions taken as a part of the tune-up of the boiler.
 - (C) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
 - iii. The Permittee shall keep the following records to document conformance with the applicable requirements:
 - (A) Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.
 - (B) The Permittee shall keep a copy of each boiler energy assessment report.
 - (C) Records of the occurrence and duration of each malfunction of the boiler or of the associated air pollution control and monitoring equipment.
 - (D) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in Section 2.2 G.1.f, including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.
 - (E) For operating units that combust non-hazardous secondary materials (e.g. saleable fat) that have been determined not to be solid waste pursuant to 40 CFR 241.3(b)(1), the Permittee shall keep a record which documents how the secondary material meets each of the legitimacy criteria under 40 CFR 241.3(d)(1). If you combust a fuel (e.g. saleable fat) that has been processed from a discarded non-hazardous secondary material pursuant to 40 CFR 241.3(b)(4), you must keep records as to how the operations that produced the fuel satisfies the definition of processing in 40 CFR 241.2 and each of the legitimacy criteria in 40 CFR 241.3(d)(1). If the fuel (e.g., saleable fat) received a non-waste determination pursuant to the petition process submitted under 40 CFR 241.3(c), you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per 40 CFR 241.4, you must keep records documenting that the material is a listed non-waste under 40 CFR 241.4(a).
- iv. [40 CFR 63.11225(c), 63.11223(b)(6)]
The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if the requirements in Section 2.2 G.1.i are not met.
- j. The records must be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years. [40 CFR 63.11225(d)] The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Reporting [15A NCAC 02Q .0508(f)]

- k. The reporting requirements of 40 CFR 63.11225(b) shall be met by complying with General Condition P of Section 3 of this permit. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these reporting requirements are not met.

SECTION 3 - GENERAL CONDITIONS (version 5.3, 08/21/2018)

This section describes terms and conditions applicable to this Title V facility.

A. **General Provisions** [NCGS 143-215 and 15A NCAC 02Q .0508(i)(16)]

1. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in 15A NCAC 02D and 02Q.
2. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by the DAQ.
3. This permit is not a waiver of or approval of any other Department permits that may be required for other aspects of the facility which are not addressed in this permit.
4. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of state laws or rules, unless specifically authorized by an order from the North Carolina Environmental Management Commission.
5. Except as identified as state-only requirements in this permit, all terms and conditions contained herein shall be enforceable by the DAQ, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.
6. Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by the DAQ, unless the source is exempted by rule. The DAQ may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

B. **Permit Availability** [15A NCAC 02Q .0507(k) and .0508(i)(9)(B)]

The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of Department of Environmental Quality upon request.

C. **Severability Clause** [15A NCAC 02Q .0508(i)(2)]

In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

D. **Submissions** [15A NCAC 02Q .0507(e) and 02Q .0508(i)(16)]

Except as otherwise specified herein, two copies of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to the appropriate Regional Office. Refer to the Regional Office address on the cover page of this permit. For continuous emissions monitoring systems (CEMS) reports, continuous opacity monitoring systems (COMS) reports, quality assurance (QA)/quality control (QC) reports, acid rain CEM certification reports, and NOx budget CEM certification reports, one copy shall be sent to the appropriate Regional Office and one copy shall be sent to:

Supervisor, Stationary Source Compliance
North Carolina Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641

All submittals shall include the facility name and Facility ID number (refer to the cover page of this permit).

E. **Duty to Comply** [15A NCAC 02Q .0508(i)(3)]

The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

F. Circumvention - STATE ENFORCEABLE ONLY

The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

G. Permit Modifications

1. Administrative Permit Amendments [15A NCAC 02Q .0514]
The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 02Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 02Q .0524 and 02Q .0505]
The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 02Q.0524 and 02Q .0505.
3. Minor Permit Modifications [15A NCAC 02Q .0515]
The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 02Q .0515.
4. Significant Permit Modifications [15A NCAC 02Q .0516]
The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 02Q .0516.
5. Reopening for Cause [15A NCAC 02Q .0517]
The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 02Q .0517.

H. Changes Not Requiring Permit Modifications

1. Reporting Requirements
Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
 - a. changes in the information submitted in the application;
 - b. changes that modify equipment or processes; or
 - c. changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

2. Section 502(b)(10) Changes [15A NCAC 02Q .0523(a)]
 - a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
 - b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
 - i. the changes are not a modification under Title I of the Federal Clean Air Act;
 - ii. the changes do not cause the allowable emissions under the permit to be exceeded;
 - iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
 - iv. the Permittee shall attach the notice to the relevant permit.
 - c. The written notification shall include:
 - i. a description of the change;
 - ii. the date on which the change will occur;
 - iii. any change in emissions; and
 - iv. any permit term or condition that is no longer applicable as a result of the change.
 - d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.
3. Off Permit Changes [15A NCAC 02Q .0523(b)]
The Permittee may make changes in the operation or emissions without revising the permit if:
 - a. the change affects only insignificant activities and the activities remain insignificant after the change; or
 - b. the change is not covered under any applicable requirement.
4. Emissions Trading [15A NCAC 02Q .0523(c)]
To the extent that emissions trading is allowed under 15A NCAC 02D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 02Q .0523(c).

- I.A. Reporting Requirements for Excess Emissions and Permit Deviations** [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]
- “Excess Emissions”** - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 02D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 02Q .0700. (*Note: Definitions of excess emissions under 02D .1110 and 02D .1111 shall apply where defined by rule.*)

“Deviations” - for the purposes of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions as well as excess emissions as defined above lasting less than four hours.

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
2. If the source is not subject to NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 02D .0535 as follows:
 - a. Pursuant to 15A NCAC 02D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
 - i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
 - name and location of the facility;
 - nature and cause of the malfunction or breakdown;
 - time when the malfunction or breakdown is first observed;
 - expected duration; and
 - estimated rate of emissions;
 - ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
 - iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 02D .0535(f)(3).

Permit Deviations

3. Pursuant to 15A NCAC 02Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:
 - a. Notify the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 02D .0535 quarterly. A written report to the Regional Supervisor shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

I.B. Other Requirements under 15A NCAC 02D .0535

The Permittee shall comply with all other applicable requirements contained in 15A NCAC 02D .0535, including 15A NCAC 02D .0535(c) as follows:

1. Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director, that the excess emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in 15A NCAC 02D .0535(c)(1) through (7).
2. 15A NCAC 02D .0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

J. Emergency Provisions [40 CFR 70.6(g)]

The Permittee shall be subject to the following provisions with respect to emergencies:

1. An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in 3. below are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:
 - a. an emergency occurred and the Permittee can identify the cause(s) of the emergency;
 - b. the permitted facility was at the time being properly operated;
 - c. during the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and
 - d. the Permittee submitted notice of the emergency to the DAQ within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

K. **Permit Renewal** [15A NCAC 02Q .0508(e) and 02Q .0513(b)]

This 15A NCAC 02Q .0500 permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 02Q .0500 renewal application is submitted at least six months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 02Q .0512(b)(1), this 15A NCAC 02Q .0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under 15A NCAC 02Q .0400 terminates the facility's right to operate unless a complete 15A NCAC 02Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 02Q .0400 requirements. In either of these events, all terms and conditions of these permits shall remain in effect until the renewal permits have been issued or denied.

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 02Q .0508(i)(4)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 02Q .0508(i)(9)]

1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

N. **Duty to Supplement** [15A NCAC 02Q .0507(f)]

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

O. **Retention of Records** [15A NCAC 02Q .0508(f) and 02Q .0508 (l)]

The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request.

P. **Compliance Certification** [15A NCAC 02Q .0508(n)]

The Permittee shall submit to the DAQ and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall

comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:

1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent; and
4. the method(s) used for determining the compliance status of the source during the certification period.

Q. Certification by Responsible Official [15A NCAC 02Q .0520]

A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

R. Permit Shield for Applicable Requirements [15A NCAC 02Q .0512]

1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:
 - a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
 - b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
 - c. the applicable requirements under Title IV; or
 - d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under 15A NCAC 02Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 02Q .0515.

S. Termination, Modification, and Revocation of the Permit [15A NCAC 02Q .0519]

The Director may terminate, modify, or revoke and reissue this permit if:

1. the information contained in the application or presented in support thereof is determined to be incorrect;
2. the conditions under which the permit or permit renewal was granted have changed;
3. violations of conditions contained in the permit have occurred;
4. the EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
5. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

T. Insignificant Activities [15A NCAC 02Q .0503]

Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

U. Property Rights [15A NCAC 02Q .0508(i)(8)]

This permit does not convey any property rights in either real or personal property or any exclusive privileges.

V. Inspection and Entry [15A NCAC 02Q .0508(l) and NCGS 143-215.3(a)(2)]

1. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the DAQ, or an authorized representative, to perform the following:
 - a. enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
 - b. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
 - c. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
 - d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.

2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

W. **Annual Fee Payment** [15A NCAC 02Q .0508(i)(10)]

1. The Permittee shall pay all fees in accordance with 15A NCAC 02Q .0200.
2. Payment of fees may be by check or money order made payable to the N.C. Department of Environmental Quality. Annual permit fee payments shall refer to the permit number.
3. If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under 15A NCAC 02Q .0519.

X. **Annual Emission Inventory Requirements** [15A NCAC 02Q .0207]

The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in 15A NCAC 02Q .0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

Y. **Confidential Information** [15A NCAC 02Q .0107 and 02Q. 0508(i)(9)]

Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 02Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 02Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]

A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 02Q .0100 and .0300.

AA. **Standard Application Form and Required Information** [15A NCAC 02Q .0505 and .0507]

The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 02Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History** [15A NCAC 02Q .0507(d)(4)]

The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 02Q .0501(e)]

1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall service, repair, and maintain such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82 Subpart F.
2. The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR Part 82 Subpart F.
3. The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.

DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 02Q .0508(h)]

If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

EE. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1)** – FEDERALLY-ENFORCEABLE ONLY

Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

FF. **Title IV Allowances** [15A NCAC 02Q .0508(i)(1)]

This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

GG. **Air Pollution Emergency Episode** [15A NCAC 02D .0300]

Should the Director of the DAQ declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in 15A NCAC 02D .0300.

HH. **Registration of Air Pollution Sources** [15A NCAC 02D .0202]

The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 02D .0202(b).

II. **Ambient Air Quality Standards** [15A NCAC 02D .0501(c)]

In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 02D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 02Q .0508(i)(16)]

Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .0912, .1110, .1111, or .1415 of Subchapter 02D. If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.
4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
 - a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
 - i. Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
 - ii. Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
 - iii. Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
 - b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in Section 02D .2600 has precedence over all other tests.

KK. Reopening for Cause [15A NCAC 02Q .0517]

1. A permit shall be reopened and revised under the following circumstances:
 - a. additional applicable requirements become applicable to a facility with remaining permit term of three or more years;
 - b. additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;
 - c. the Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
 - d. the Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
2. Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to 15A NCAC 02Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 02Q .0507, .0521, or .0522 shall be followed to reissue the permit. If the State-enforceable only portion of the permit is reopened, the procedures in 15A NCAC 02Q .0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.
4. The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.
5. Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

LL. Reporting Requirements for Non-Operating Equipment [15A NCAC 02Q .0508(i)(16)]

The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. When permitted equipment is not in operation, the requirements for testing, monitoring, and recordkeeping are suspended until operation resumes.

MM. Fugitive Dust Control Requirement [15A NCAC 02D .0540]

As required by 15A NCAC 02D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 02D .0540(f).

"Fugitive dust emissions" means particulate matter from process operations that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas, stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

NN. Specific Permit Modifications [15A NCAC 02Q .0501 and .0523]

1. For modifications made pursuant to 15A NCAC 02Q .0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 02Q .0501(d)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.
3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 02Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA - Air Planning Branch, 61 Forsyth Street SW, Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:
 - a. a description of the change at the facility;
 - b. the date on which the change will occur;
 - c. any change in emissions; and
 - d. any permit term or condition that is no longer applicable as a result of the change.

In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the

application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements.

OO. **Third Party Participation and EPA Review** [15A NCAC 02Q .0521, .0522 and .0525(7)]

For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 02Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Acronyms

AOS	Alternative Operating Scenario
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
DAQ	Division of Air Quality
DEQ	Department of Environmental Quality
EMC	Environmental Management Commission
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standard
OAH	Office of Administrative Hearings
PM	Particulate Matter
PM₁₀	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO₂	Sulfur Dioxide
tpy	Tons Per Year
VOC	Volatile Organic Compound